

PHASE 1 ENVIRONMENTAL SITE ASSESSMENT

MOKAPU COURT FAMILY HOUSING AREA MARINE CORPS BASE HAWAII, KANEOHE BAY

Prepared for



Honolulu, Hawaii

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ACRONYMS AND ABBREVIATIONS

ACM	Asbestos-containing material
AIRS	Aerometric Information Retrieval System
AST	Aboveground Storage Tank
ASTM	American Society of Testing and Materials
AUL	Activity and Use Limitation
BA	Bachelor of Art
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
COR	Corrective Action Report
DDT	Dichloro-diphenyl-trichloroethane
EBS	Environmental Baseline Survey
EP	Environmental Professional
ERNS	Emergency Response Notification System
°F	Degrees Fahrenheit
FAA	Federal Aviation Administration
FCC	Federal Communication Commission
FINDS	Facility Index System
FOS	Finding of Suitability
FRS	Facility Registry System
FTTS	FIFRA/TSCA Tracking System
GEN	Generator
HDOH	Hawaii Department of Health
HEER	Office of Hazard Evaluation and Emergency Response, HDOH
HMIRS	Hazardous Materials Incident Response System
HUD	United States Department of Housing and Urban Development
kg	Kilograms
km	Kilometer
LBP	Lead-based paint
lbs	Pounds
LLC	Limited Liability Corporation
LQG	Large Quantity Generator
LUST	Leaking underground storage tank
m	Meter

***PHASE I ENVIRONMENTAL SITE ASSESSMENT
MOKAPU COURT FAMILY HOUSING AREA
MARINE CORPS BASE HAWAII, KANEOHE BAY***

MCB	Marine Corps Base
MS	Master of Science
µg/ft ²	Micrograms per Square Foot
NCDB	National Compliance Data Base System
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NFRAP	No Further Remedial Action Planned
NLR	No Longer Report
NOI	Notice of Intent
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NWI	National Wetlands Inventory
PCB	Polychlorinated biphenyl
pCi/L	picoCuries per liter
PE	Professional Engineer
PPV	Public Private Venture
RADINFO	Nuclear Regulatory Commission Database of Permitted Nuclear Facilities
REC	Recognized Environmental Condition
RCRA	Resource Conservation and Recovery Act
SQG	Small Quantity Generator
SSTS	Section Seven Tracking System
TCLP	Toxic Characteristic Leaching Procedure
TIGER	Topologically Integrated Geographic Encoding and Referencing System
TIS	Track Info Services, LLC
TRIS	Toxic Release Inventory System
TSCA	Toxic Substances Control Act
TSD	Treatment, Storage, and/or Disposal
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	Underground storage tank
WRCC	Western Regional Climate Center Web Page (http://www.wrcc.dri.edu/)
WRF	Water Reclamation Facility

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1.0 SUMMARY

Parsons conducted a Phase I Environmental Site Assessment in conformance with the American Society of Testing and Materials (ASTM) Standard Practice E 1527-05 for the following site:

- The Mokapu Court Family Housing Area, located at Marine Corps Base Hawaii, Kaneohe Bay

The site consists of approximately 5.173 acres. Exhibit 1, Site Map, presents the general location of the site. A legal description and aerial view of the site is presented on Exhibit 2, Site Survey Map.

The site is located in southeastern O'ahu, on Marine Corps Base Hawaii (MCBH) Kaneohe Bay, on the Mokapu peninsula adjacent to Kaneohe Bay. The site consists of 14 housing units in duplex configurations (seven buildings) that are nearing construction completion. There were no housing units available for inspection during the site reconnaissance.

Ohana Military Communities, LLC will be the lessee of the site and will be the owner of 14 improvements, all of which require no additional work.

The new duplex homes are of steel frame construction with plywood shear wall sheeting, stucco finish, and concrete tile roofs. Each unit has an attached two-car garage, central air conditioning, solar panels for water heating, and a back porch.

Available information for the site and surroundings was collected and evaluated to identify Recognized Environmental Conditions. According to the American Society for Testing and Materials (ASTM) Standard Practice E 1527-05, the term Recognized Environmental Conditions (RECs) means "the presence or likely presence of hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property."

Based on the definition of a REC in the ASTM Standard Practice E 1527-05, there are no RECs identified for this site, and no further environmental investigations are recommended.

A Phase I Environmental Site Assessment does not include any sampling and analysis of potentially contaminated materials. The scope of work of this Phase I Environmental Site Assessment did not specifically include sampling and analysis, therefore no independent soil or groundwater or other sampling and analyses were conducted.

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2.0 INTRODUCTION

2.1 PURPOSE

Parsons conducted a Phase I Environmental Site Assessment in conformance with the ASTM Standard Practice E 1527-05 for the purpose of identifying RECs at the following site:

- The Mokapu Court Family Housing Area, located at Marine Corps Base Hawaii, Kaneohe Bay

The site is part of the Waikulu Family Housing Area and consists of approximately 5.173 acres. A legal description and aerial view of the site is presented on Exhibit 2, Site Survey Map.

Exhibit 3 provides the approximate location of the site on a United States Geological Survey (USGS) topographic map.

The term REC, as defined in ASTM Standard Practice E 1527-05, means the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with applicable laws. The term is not intended to include *de minimis* conditions that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

2.2 PHASE I TASKS

Parsons performed the following tasks:

2.2.1 Records review

Available current and historical documents pertinent to environmental activities conducted in or near the site were reviewed. Topics of interest include chemical usage or inventories, waste management records, Resource Conservation and Recovery Act (RCRA) or Comprehensive Environmental Response Compensation and Liability Act (CERCLA) activities.

2.2.2 Site reconnaissance and Interviews

Site reconnaissance of the site to visually and physically observe and document conditions on the property was performed. Since the units are still being constructed, there were no housing units available for inspection. Interviews were conducted in keeping with the requirements of ASTM Standard Practice E 1527-05, § 7.1 – 7.2.

2.2.3 File search and records review

A search of federal, state, and local regulatory agency electronic databases was performed. This database search identifies locations that are regulated under various environmental laws, notably CERCLA, RCRA, and the Toxic Substances Control Act (TSCA). It also identifies locations where a release of hazardous substances has occurred or is suspected.

2.2.4 Historical records review

A historic use information review was conducted to identify all obvious uses from the present back to the first developed use or 1940, whichever is earlier. Available historical aerial photographs were reviewed, and any locations of activities that may pose an environmental concern to the site were identified.

2.2.5 Evaluate data and prepare report

Significant findings from the above-stated tasks were summarized, RECs were identified, and recommendations were made for additional site assessment activities, if needed.

2.3 SPECIAL TERMS AND CONDITIONS

- The information and conclusions presented in this report are valid only for the circumstances of the site investigated as described as of the dates in this report.
- Parsons evaluated the reasonableness and completeness of available relevant information, but does not assume responsibility for the truth or accuracy of any information provided to Parsons by others or for the lack of information that is intentionally, unintentionally, or negligently withheld from Parsons by others.
- After acceptance of this report, if Parsons obtains information that it believes warrants further exploration and development, Parsons will endeavor to provide that information, but Parsons will not be liable for not doing so.

2.4 LIMITATIONS AND EXCEPTIONS OF ASSESSMENT

To achieve the study objectives stated in this report, Parsons based its conclusions on the best information available during the period of the investigation and within the limits prescribed by the ASTM Standard.

No investigative method can completely eliminate the possibility of obtaining partially imprecise or incomplete information. Professional judgment was exercised in gathering and evaluating the information obtained, and Parsons commits itself to the usual care, thoroughness, and competence of the engineering profession.

2.5 LIMITING CONDITIONS AND METHODOLOGY USED

The Phase I Environmental Site Assessment investigations were completed in accordance with the ASTM Standard Practice E 1527-05.

2.6 USER RELIANCE

This report was prepared for Ohana Military Communities, LLC, its Managing Member and other Members of Ohana Military Communities, LLC. It may be relied upon by Ohana Military Communities, LLC, its Managing Member and other Members of Ohana Military Communities, LLC, the United States of America, Department of the Navy,

(b) (4)



, and each of their respective officers, directors, employees, affiliates, successors, assigns, legal counsel and advisors.

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3.0 SITE DESCRIPTION

3.1 LOCATION AND LEGAL DESCRIPTION OF PROPERTY

Mokapu Court in the Waikulu Family Housing Area is located at MCBH Kaneohe Bay, at Latitude (North) 21.447337, Longitude (West) 157.753894. Exhibit 2 provides a legal description of the property and a site survey map.

Ohana Military Communities, LLC will be the lessee of the site and will be the owner of 14 improvements, all of which require no additional work.

3.2 SITE AND VICINITY CHARACTERISTICS

Table 3-1 provides a description of the properties directly adjacent to the site.

**Table 3-1
Adjacent Properties**

Direction	Description of Adjacent Properties
North	Rainbow Court. Rainbow Court is part of the Waikulu Family Housing Area.
East	Mokapu Elementary School.
South	Military use buildings.
West	NCO Row. NCO Row is part of the Waikulu Family Housing Area.

3.3 DESCRIPTIONS OF STRUCTURES, ROADS, OTHER IMPROVEMENTS ON THE SITE

Mokapu Court consists of seven buildings containing 14 duplex units at the northeast quadrant of the intersection of G Street and Mokapu Road. The housing units are still under construction. The new duplex homes are of steel frame construction with plywood shear wall sheeting, stucco finish, and concrete tile roofs. Each unit has an attached two-car garage, central air conditioning, solar panels for water heating, and a back porch.

The site is bounded on the south by Mokapu Road and on the west by Lawrence Road. These roads are two-way asphalt-paved roads. Lawrence Road continues from G Street and provides access to the northeast housing areas of the base. Mokapu Road loops through the base from the northwest to the southeast and connects to Mokapu Boulevard offbase.

Potable water is supplied to the site through facilities owned and maintained by the City and County of Honolulu Board of Water Supply. Upon entering the base potable water system, the water is chlorinated, fluoridated and tested for fecal coliform and trihalomethanes. Sewage from the site is disposed through a sewer collection system that connects to the MCBH Water Reclamation Facility (WRF). Reclaimed water from the WRF is used for watering the Klipper Golf Course.

3.4 INFORMATION REPORTED BY USER REGARDING ENVIRONMENTAL LIENS OR SPECIALIZED KNOWLEDGE OR EXPERIENCE

3.4.1 Title Records

The site is currently owned by the Federal government and managed by the Department of Defense. Declaration of taking by the United States government for military use was made on July 21, 1939.

3.4.2 Environmental Liens

A chain of title was obtained for the site. No information regarding environmental liens was found against the site.

3.4.3 Specialized Knowledge or Experience

Other than the information provided by the Navy contained herein, no specialized knowledge or experience was reported or discovered for the site.

3.4.4 Commonly Known or Reasonably Ascertainable Information

Other than the information provided by the Navy contained herein, no information was reported concerning commonly known or reasonably ascertainable information.

3.4.5 Valuation Reduction for Environmental Issues

Ohana Military Communities, LLC has no knowledge of any valuation reduction of the site as a result of any environmental issues.

3.4.6 Owner, Property Manager, and Occupant Information

Other than the information provided by the Navy contained herein, no information was reported concerning the owner, property manager, and occupants.

3.4.7 Reason for Performing Phase I

Ohana Military Communities, LLC is entering into a real estate transaction with the United States Navy. This Phase I is performed in accordance with ASTM Standard

Practice E 1527-05 to allow Ohana Military Communities, LLC, consistent with good commercial and customary practice, to satisfy the all appropriate inquiry into the previous ownership and use of the property.

3.4.8 Other

No other information of environmental interest was provided by Ohana Military Communities, LLC.

3.5 CURRENT USES OF THE PROPERTY

The site consists of 14 housing units to be occupied by Marine Corps personnel and family.

3.6 PAST USES OF THE PROPERTY

In 1918, Fort Hase was commissioned and was known as the Kuwaahoe Military Reservation. In 1939, the Navy constructed a small seaplane base and upon its completion, Naval Air Station Kaneohe's role was expanded to include the administration of the Kaneohe Bay Naval Defense Sea Area. After the war, air station activities consisted of limited air operations, a small security detachment, and a federal communications center. In 1951, the station was proposed as an ideal site for combined air-ground team, so the Marines assumed control of the air station activities when naval aviation moved to Barbers Point Naval Air Station. On January 15, 1952, Marine Corps Air Station, Kaneohe Bay was commissioned.

Historical uses of the property were evaluated through review of databases searched by Track Info Services, LLC (TIS) and presented in an Environmental FirstSearch™ Report. The housing units now under construction at the site are replacement housing units. The site was vacant prior to the construction of the housing units that have been removed.

3.7 CURRENT AND PAST USES OF THE ADJOINING PROPERTIES

Table 3-1 in Section 3.2, *Site and Vicinity Characteristics* and the following paragraphs, provide a description of the current uses of the adjoining properties.

NCO Row consists of four buildings that house eight duplex units. These units were constructed in 1941. There are no historic homes; however, there are 4 homes eligible for the NRHP.

Rainbow Court consists of eighty one buildings that house 320 units. These units were built in 1976. There are no historic homes, and no homes are eligible for the NRHP.

Mokapu Elementary School was established in 1960. It has an average enrollment of 800 to 950 students enrolled in classes from preschool to grade six. There are about 50 classrooms in this school.

Historical aerial photographs indicate that the adjoining properties to the north, east and west were primarily undeveloped and developed about the same time as the site. Section 4.5 provides additional information regarding the historic uses of properties adjoining the site.

4.0 RECORDS REVIEW

This section presents information pertinent to the site and its surroundings from various recorded sources. Electronic databases representing standard environmental record sources and physical setting sources were reviewed. Information pertinent to the site is summarized in this section.

4.1 STANDARD ENVIRONMENTAL RECORD SOURCES, FEDERAL AND STATE

Parsons has retained the services of an environmental database company to search applicable regulatory agency lists and standard environmental record sources to identify locations of potential concern within the ASTM Standard Practice E 1527-05 (Standard) minimum search distances. The following summarizes the environmental database report dated May 23, 2007. Appendix A presents the complete environmental data report. The report includes maps indicating the search distance of 0.12, 0.25, 0.5, and 1 mile [0.2, 0.4, 0.8, and 1.6 kilometers (km)] from the center of the site, which include the ASTM database required search distances of zero, 0.125, 0.25, 0.5, and 1 mile (zero, 0.2, 0.4, 0.8, and 1.6 km).

The following subsections summarize information within the respective database search distances. There were no sites within the ASTM-prescribed minimum search distances. Exhibit 4 presents the location of the site relative to areas within the search distances.

4.1.1 Federal ASTM Records

National Priorities List

The National Priorities List (NPL) listing, also known as the Superfund list, is a subset of the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) database. The NPL database identifies over 1,200 sites nationwide for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As a result, the environmental database company provides coverage for over 1,000 NPL site boundaries produced by the USEPA Environmental Photographic Interpretation Center.

Currently, there are no NPL sites within the 1-mile (1.6-km) search distance from the site.

Comprehensive Environmental Response, Compensation, and Liability Information System

The CERCLIS database contains data on potentially hazardous waste sites that have been reported to USEPA by states, municipalities, private companies, and private

persons. Notification to USEPA is made pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The CERCLIS database contains sites that are either proposed to be on or on the NPL, and sites that are in the screening and assessment phase for possible inclusion on the NPL.

Currently, there are no listed CERCLIS sites located within the 0.5-mile (0.8-km) search distance from the site.

CERCLIS – No Further Remedial Action Planned

Beginning in February 1995, CERCLIS site designated *No Further Remedial Action Planned* (NFRAP) have been removed from the CERCLIS database. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action of NPL consideration. USEPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived these as historical records so that USEPA does not needlessly repeat the investigations in the future.

Currently, there are no listed CERCLIS-NFRAP sites located within the 0.5-mile (0.8-km) search distance from the site.

Resource Conservation and Recovery Act / Corrective Action Report

The Corrective Action Report (RCRA COR) database identifies hazardous waste handlers with RCRA action activity. The database shows which nationally defined corrective action core events have occurred for every handler that has currently or previously had corrective action activity.

Currently, there are no sites listed in the RCRA COR database that are within the 1-mile (1.6-km) search distance from the site.

Resource Conservation and Recovery Act information System/Treatment, Storage, and/or Disposal

The Resource Conservation and Recovery Act Information System/ Treatment, Storage and/or Disposal (RCRA TSD) database list identifies those facilities or locations that have notified USEPA of their activities relative to their onsite treatment, storage, and/or disposal of hazardous wastes. A listed site does not necessarily indicate environmental problems at the site but rather that the site is (or was) engaged in hazardous waste activities; therefore, it may have the potential to cause environmental degradation if

hazardous wastes have been mishandled or otherwise released in an uncontrolled manner.

Currently, there are no RCRA TSD sites within the 0.5-mile (0.8-km) search distance from the site.

Resource Conservation and Recovery Act / Quantity Generators

The Resource Conservation and Recovery Act Information System Sites / Quantity Generators (RCRA GEN) is a database of facilities that generate or transport hazardous waste or meet other RCRA requirements. Two categories of RCRA GEN are usually considered. Large Quantity Generators (LQGs) list identifies those facilities or locations that have notified USEPA that they generate (or have generated) at least 2,200 lbs (998 kg) of non-acutely hazardous wastes and/or 2.2 lbs (1 kg) of acutely hazardous waste, monthly. Small Quantity Generators (SQGs) list identifies those facilities or locations that have notified USEPA that they generate (or have generated) less than 2,200 lbs (998 kg) of non-acutely hazardous wastes and/or 2.2 lbs (1 kg) of acutely hazardous waste, monthly. A listed site does not necessarily indicate environmental problems on the site, but rather that the site is (or was) engaged in hazardous waste activities; therefore, it may have the potential to cause environmental degradation if hazardous wastes have been mishandled or otherwise released in an uncontrolled manner.

Currently, there are no RCRA GEN sites within the 0.25-mile (0.4 km) search distance from the site.

Resource Conservation and Recovery Act / No Longer Report

The Resource Conservation and Recovery Act Information Sites / No Longer Report (RCRA NLR) is a database of facilities not currently classified by the USEPA but is still included in the RCRIS database. The reasons for non classification are: (1) Failure to report in a timely matter; (2) No longer in business at the listed address, and/or (3) No longer generating hazardous waste materials in quantities which require reporting.

Currently, there is no listed RCRA NLR site within the 0.12-mile (0.2 km) search distance from the site.

Emergency Response Notification System

The Emergency Response Notification System (ERNS) is a USEPA national computer database system that is used to store information on the sudden and/or accidental release of hazardous substances, including petroleum, into the environment. The ERNS

reporting system contains preliminary information on specific releases, including the spill location, the substance released, and the responsible party. The ERNS report only includes releases from 1988 to the most recent quarterly update.

Currently, there are no ERNS sites within the 0.12-mile (0.2 km) search distance from the site.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) is a database of permitted facilities receiving and discharging effluents to and from a natural source where treatment of the effluent is monitored.

Currently, there are no NPDES sites with the 0.25-mile (0.4 km) search distance from the site.

Facility Index System

The Facility Index System (FINDS) is a database maintained by USEPA/National Technical Information Service that contains both facility information and “pointers” to other sources or more detailed information. The FINDS is the index of identification numbers associated with a property or facility which the USEPA has investigated or has been made aware of in conjunction with various regulatory programs. Each record indicates the USEPA office that may have files on the site or facility. A Facility Registry System (FRS) site has an FRS in the status field.

Currently, there are no FINDS sites within the 0.25-mile (0.4-km) search distance from the site.

Toxic Release Inventory System

The Toxic Release Inventory System (TRIS) is a USEPA database that identifies all facilities that have had or may be prone to toxic material releases.

Currently, there are no TRIS sites within the 0.25-mile (0.4-km) search distance from the site.

Wetlands

The US Fish and Wildlife Service maintains a National Wetlands Inventory (NWI) database of information summarizing characteristics, extent, and status of the Nation’s wetlands and deepwater habitats. This database is available for select areas of the United States.

There are no wetlands within the 0.5-mile (0.8-km) search distance from the site according to the May 2007 environmental database search report. Mokapu Court was assessed in a Phase 1 ESA dated September 2006 as part of the Waikulu Family Housing Area. In that report, the database search for the Waikulu Family Housing Area indicated three wetlands within the 0.5 mile search distance. To reconcile this discrepancy, the US Fish and Wildlife Service website was consulted regarding the NWI. According to the website, the NWI is updated continually to increase coordinate precision and to update wetland attribute codes, among other things. The wetlands map for Hawaii was then consulted and compared with the wetlands map provided in the 2006 database search report. It was determined that wetlands previously shown in the 2006 report as encompassing a large swath of the northern area of MCBH Kaneohe Bay are now limited to the immediate coastline in that area, consistent with the topography of that area (narrow beaches and cliffs), as a result these wetlands were not reported in the May 2007 environmental database search report for Mokapu Court. Designation as a wetland is not an indication of an environmental discharge, violation or concern. Wetlands do not constitute a REC.

Floodplains

The Floodplains is a database maintained by the Federal Emergency Management Agency which summarizes 100 year and 500 year floodplain boundaries for select counties in the United States.

Currently, there are no Floodplains sites within the 0.5-mile (0.8-km) search distance from the site.

Receptors

The sensitive receptors are listed by the 2002 Census Bureau's TIGER (Topologically Integrated Geographic Encoding and Referencing System), from the US Department of Commerce. This database summarizes all schools and hospitals that may house individuals deemed sensitive to environmental discharges due to their fragile immune systems.

Currently, there are no receptors listed within the 0.12-mile (0.2-km) search distance from the site.

Nuclear Permits

The Nuclear Regulatory Commission of the USEPA maintains a database of permitted nuclear facilities (RADINFO). This database provides basic information about facilities that are permitted and regulated for their use and handling of radioactive materials.

Currently, there is no Nuclear Permit on record within the 0.5-mile (0.8-km) search distance from the site.

4.1.2 State of Hawaii ASTM Records

Underground Storage Tanks

The Underground Storage Tanks (REG UST/AST) is a database identifying underground and aboveground storage tanks in the state of Hawaii. This database is maintained by the HDOH.

Currently, there are no REG UST/AST sites listed within the 0.25-mile (0.4-km) search distance from the site.

Leaking UST

The Leaking Underground Storage Tanks (LUST) is a database identifying underground and aboveground storage tanks that have been leaking, and is maintained by the HDOH.

Currently, there are no LUST sites listed within the 0.25-mile (0.4-km) search distance from the site. Mokapu Court was assessed in a Phase 1 ESA dated September 2006 as part of the Waikulu Family Housing Area. In that report, the database search for the Waikulu Family Housing Area indicated one LUST within the 0.25 mile search distance. It should be noted that Mokapu Court is the farthest of the four neighborhoods from this LUST site, thus when measuring from Mokapu Court, this LUST is outside of the 0.25-mile search distance and therefore is not identified in the database search report for Mokapu Court. This LUST site did not constitute a REC as assessed in the 2006 Phase 1 ESA, and does not constitute a REC to the site based on this assessment.

4.1.3 Non-ASTM Supplemental Records

Historic/Landmark

The National Park Service maintains a National Registry of Historic Places database. This database contains the Nation's official list of cultural resources worthy of preservation. Properties listed include districts, sites, buildings, structures, and objects that are significant in American history, architectures, archeology, engineering, and culture.

Currently, there are no Historic/Landmark sites within the 0.5-mile (0.8-km) search distance from the site.

Federal Land Use

The Federal Lands of the United States is a database of lands owned or administered by the Federal Government, including the Bureau of Land Management, the Bureau of Reclamation, the US Department of Agriculture Forest Service, the Department of Defense, the US Fish and Wildlife Service, the Tennessee Valley Authority, and other agencies. Only areas of 640 acres or more are included in this listing. The database provides descriptive information that includes name and type of the Federal land and the administering agency. Indian Lands of the United States is a database of areas administered by the Bureau of Indian Affairs and exceeding 640 acres in size. This database includes Federally-administered lands within a reservation which may or may not be considered part of the reservation. Endangered Species Protection Program is a database that provides a list of the Endangered Species by county and the species status.

This site is considered a Federal Land Use site. Designation as a Federal Land Use site indicates that the Federal government owns and/or operates the land. This designation does not constitute a REC.

Federal Wells

The USGS maintains a database of more than 850,000 records of wells, springs, test holes, tunnels, drains, and excavations in the United States. This database is an inventory of the United States Groundwater Sites.

Currently, there are no Federal Wells sites within the 0.5-mile (0.8-mile) search distance from the site.

Releases (Air/Water)

The USEPA has a list of Air and Surface Water Releases. This list is a subset of the ERNS-National Response System database detailing sites that have impacted only the air or surface water.

Currently, there are no Releases (Air/Water) within the 0.12-mile (0.2-km) search distance from the site.

Hazardous Materials Incident Response System

The Hazardous Materials Incident Response System (HMIRS) is a database of information regarding materials, packaging, and a description of events for tracked incidents.

Currently, there are no HMIRS sites within the 0.12-mile (0.2-km) search distance from the site.

National Compliance Data Base System

The National Compliance Data Base System (NCDB) is a database of regional compliance and enforcement activity and manages the Pesticides and Toxic Substances compliance and Enforcement program at a national level. The system tracks all compliance monitoring and enforcement activities from the time an inspector conducts an inspection until the time the inspector closes the case or settles the enforcement action. NCDB is the national repository of the 10 regional and Headquarters FIFRA/TSCA Tracking System (FTTS). Data collected in the regional FTTS is transferred to NCDB to support the need for the monitoring national performance of regional programs.

Currently, there are no NCDB sites within the 0.25-mile (0.4-km) search distance from the site. Mokapu Court was assessed in a Phase 1 ESA dated September 2006 as part of the Waikulu Family Housing Area. In that report, the database search for the Waikulu Family Housing Area indicated one NCDB site (Mokapu Elementary School, assessed for asbestos under the Asbestos Hazard Emergency Response Act) within the 0.25 mile search distance. Mokapu Court is the farthest of the four neighborhoods from this NCDB site, which is outside of the 0.25-mile search distance from Mokapu Court and therefore is not identified in the database search report for Mokapu Court. This NCDB site did not constitute a REC as assessed in the 2006 Phase 1 ESA, and does not constitute a REC to the site based on this assessment.

PADS

The USEPA maintains a database of PCB handlers. This database includes PCB generators, transporters, storers and/or disposers that are required to register with the USEPA. This database indicates the type of handler and registration number. Also included is the PCB Transformer Registration Database.

Currently, there are no PADS sites within the 0.25-mile (0.4-km) search distance from the site.

Federal Other

Section Seven Tracking System (SSTS) within the USEPA maintains a database of registration and production data for facilities which manufacture pesticides. Aerometric Information Retrieval System (AIRS) is another database of detailed information pertaining to sites which submit air emissions reports. Developed under the Clean Air Act, this database also maintains data on compliance status and enforcement actions.

Currently, there are no Federal Other sites within the 0.25-mile (0.4-km) search distance from the site.

Towers

Towers is a database that encompasses three sources of information from the Federal Aviation Administration (FAA) and the Federal Communication Commission (FCC). FAA data includes the Digital Obstacle File which contains obstruction data for man made objects that affect domestic aeronautical charting products. FCC data includes the Wireless Telecommunication Bureau's Universal Licensing System which contains the Antenna Structure Database and the Cellular Tower Database. FCC data also includes the Mass Media Bureau's Consolidated database System which includes engineering data for AM, FM, and television broadcasting stations.

Currently, there are no towers within the 0.25-mile (0.4-km) search distance from the site.

Radon

The USEPA collected radon data from the 1990-1991 national radon project. This project collected data for a variety of zip codes across the United States. The radon data listed here is based on the radon data collected for this site's zip code.

The database report indicates the presence of radon in the area in concentrations between 1.9 and 1.6 picoCuries/liter (pCi/L). Radon information for the Hawaiian Islands indicates that the USEPA has categorized Hawaii as Zone 3 for radon. A Zone 3 classification is for areas with indoor average radon levels of less than to 2 picoCuries/liter (pCi/L). This is below the USEPA radon recommended action level (RAL) of 4 pCi/L.

4.2 ENVIRONMENTAL AGENCY RECORDS

Findings from the environmental database review and site visit did not reveal any RECs resulting in the need for further review of agency records.

The Office of Hazard Evaluation and Emergency Response (HEER) of the HDOH maintains lookup spreadsheets for releases and sites of interest. These spreadsheets were reviewed on May 23, 2007 and the site is currently not listed as a site of interest. There are two listed releases that have occurred on MCBH Kaneohe Bay. The first release occurred on March 15, 2000 and consisted of a 100-gallon spill of jet fuel that was contained in the built-in secondary containment of a tanker truck. The spill was pumped into a bowser and later processed through an oil-water separator. The spill

occurred at the fueling pits and not at the Mokapu Court housing area. No further action was indicated for this release event. The second release occurred on February 20, 2006 and consisted of a million-gallon raw sewage discharge from the base's water reclamation facility. The HEER referred this release event to the Clean Water Branch of the HDOH. These releases did not affect the Mokapu Court housing area and do not constitute RECs to the site.

4.3 NAVY AND MARINE CORPS RECORDS AND DOCUMENTS

4.3.1 Environmental Baseline Survey

Application of waste oil as a dust suppressant along the roadways within the vicinity of the site may have occurred, potentially resulting in a pre-existing condition. This was reported to have been a common practice at other military installations (DON, 2006). Since no documentation can be found to support that this practice occurred at Mokapu Court, it is the opinion of the EP that this does not constitute a REC for the site.

None of the transformers discussed in the 2006 Phase 1 ESA are located at the site. Although soil sampling data indicate that soils in the immediate vicinity of these transformers have PCB concentrations above the TSCA action levels, they do not constitute RECs to the site since PCB contamination is localized and does not migrate.

The Environmental Baseline Survey (EBS) reports that according to housing management, pesticides/herbicides have been legally applied to the interior and exterior of the homes at MCBH Kaneohe Bay to control vegetative growth and infestation. Chlordane was also likely applied beneath the floor slabs of the housing units for termite protection. A limited soils survey (BENDCO, August 2005) from underneath the slab of a building in preparation for construction of replacement housing, indicated levels less than the detection limit of 0.000013 parts per million (ppm) of chlordane. Dichloro-diphenyl-trichloroethane (DDT) and dieldrin were detected below 0.0006 parts per billion. The presence of the pesticide residues in the soil is the result of past application of the chemicals on site rather than the result of a spill or other type of release. These levels are below the Hawaii Tier II Environmental Action Levels (EALs). The State of Hawaii requires remediation of pesticide impacted soils above the Tier II EALs. Soils containing chlordane at levels less than 1.66 ppm may be used in areas of unrestricted access, as determined by the USEPA. Based on the low levels of contamination, pesticide impacted soil does not constitute a REC to the site and no further investigations are recommended. (Note: The limited soils survey report was made available to Parsons by Ohana Military Communities LLC for this assessment, but was not available from either the DoN or Ohana Military Communities LLC in preparation of the 2006 Phase 1 ESA.).

4.3.2 Integrated Natural Resources Management Plan

The Marine Corp Base Hawaii Integrated Natural Resources Management Plan and Environmental Assessment (MCB Hawaii 2001) served as a reference for endangered species data in the Kaneohe Bay area. The four resident native waterbird species observed primarily at Kaneohe Bay wetlands that are federally listed endangered species are of special protection concern [e.g., Hawaiian stilt (*ae'o*, *Himantopus mexicanus knudseni*), Hawaiian gallinule (*'alae 'ula*, *Gallinula chloropus sandvicensis*); Hawaiian Coot (*'alae ke'oke'o*, *Fulica americana alai*), and Hawaiian duck (*koloa moali*, *Anas wyvilliana*)]. The growing colony of wedge-tailed shearwaters (*Puffinus pacificus chlororhynchus*) nesting in the eastern sand dune of the pond shoreline is also of special protection concern. There are no naturally-occurring plant species currently found at Kaneohe Bay that are identified as listed endangered species.

In addition to the diverse marine organisms of concern hosted in marine waters of Mokapu's 500-yard buffer zone (e.g., coral colonies, sponges, bryozoans, sabellid worms, tunicates, and 200 fish species), there are several species of marine animals in the waters off-shore of MCB Kaneohe that have been declared threatened or endangered by the federal government and are of special protection concern. These include threatened green sea turtles (*Chelonia mydas*), the endangered hawksbill turtle (*Eretmochelys imbricata*), the endangered Hawaiian monk seal (*Monachusschauinslandi*), and the endangered humpback whale (*Megaptera novaeangliae*). Of these species, there have been several documented "false nest" attempts by sea turtles along Mokapu shoreline beaches, but these turtles regularly swim and feed in Mokapu's nearshore waters. Hawaiian monk seals infrequently haul out to rest along Mokapu shoreline beaches on the northwest and northeast coastline either side of Pyramid Rock.

4.4 PHYSICAL SETTINGS SOURCE(S)

4.4.1 USGS Topographic Map

Exhibit 3 presents the location of the site on a USGS topographic map.

4.4.2 Geological, Hydrogeological, and Meteorological Review

Geology

The island of O'ahu originated from the remnants of two shield volcano mountain ranges, with the older Waianae Mountain Range on the west and the younger Koolau Range on the east. The Kaneohe MCB is located on the Mokapu peninsula, adjacent to Kaneohe Bay and downgradient from the Koolau mountain range. Three volcanic vents are present on the peninsula from the Honolulu Volcanic Series. These include the

Ulupau cone (tuff cone) to the East, Puu Hawaiiloa (cinder cone and lava flow) in the center of the peninsula and Pyramid Rock (lava flow) at the northern tip of the peninsula (Macdonald, 1983). Except for these features, the topography in the area rises from sea level to some 100 feet above mean sea level. Geologic formations in the area include coral reef deposits, sedimentary deposits and underlying basalt flows as well as tuff and cinder cones.

Hydrogeology

The depth to groundwater here is anticipated at elevations close to mean sea level. On the Mokapu peninsula, two aquifer types are present: upper basal (fresh water in contact with sea water) unconfined aquifers in sedimentary deposits and a lower basal confined aquifers in dike deposits (Mink and Lau, 1990).

Meteorology

The site is located within the Kaneohe area of O'ahu. Meteorological studies and investigations from a weather station located at Kaneohe Mauka have indicated that the average high of 83.2 degrees Fahrenheit (°F) occurs during the summer months and a low of 65.3°F occurs in the winter months. The average annual maximum temperature is 79.8°F. Rainfall occurs year-round, providing an average annual rainfall of 76.0 inches (1.93 m) of rain (WRCC, 2006).

4.5 HISTORICAL USE INFORMATION

4.5.1 Aerial Photographs

Copies of aerial photographs of the site and surrounding areas were obtained for the years 1950, 1953, 1955, 1969 and 1991 from TIS. These photographs are presented in Appendix B. The following historical information was identified on the aerial photographs:

1950: The site is undeveloped. Housing is visible to the west. Building 455 is located to the north of the site. Adjacent lands to the south and east are vacant.

1953: Compared to the 1950 aerial photograph, no additional development of the site and immediate adjacent properties is visible.

1955: Compared to the 1950 and 1953 aerial photographs, no additional development of the site and the immediate adjacent properties is visible.

1969: The site is developed with military family housing. The housing area to the west of the site and previously visible in the 1950, 1953 and 1955 aerial photographs has been removed. The Mokapu Elementary School is now visible to the east of the site.

1991: Compared to the 1969 aerial photograph, there is no further development of the site. However, there is now replacement housing in the area west of the site. There is also a large building to the south of the site across Mokapu Road.

4.5.2 Historic Topographic Maps

Copies of historic topographic maps of the site and surrounding areas were obtained for the years 1959, 1968, 1983 and 1998 from TIS. These maps are presented in Appendix C. The site development as recorded on the historic topographic maps is closely aligned with the development presented in the historical aerial photographs. The 1968 map indicates the removal of housing to the west of the site that was recorded in the 1969 aerial photograph. By 1983, the new housing to the west of the site is evident on the topographical map.

4.5.3 Fire Insurance Maps

Sanborn® fire insurance maps were not available for the site.

4.5.4 Recorded Land Title Records

The site is currently owned by the Federal government and managed by the Department of Defense. Declaration of taking by the United States government for military use was made on July 21, 1939.

4.5.5 Building Department Records

The site is currently owned by the Federal government and managed by the Department of Defense. Parsons coordinated with the Navy during the site reconnaissance and records search. Information regarding date of construction and subsequent modifications to structures was reviewed and incorporated into this assessment from information provided by the Navy and available on the Internet, and from other documents provided by the Design contractor.

4.5.6 Zoning/Land Use Records

The zoning designation for the site is F-1, Military and Federal.

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5.0 INFORMATION FROM SITE RECONNAISSANCE AND INTERVIEWS

Parsons conducted reconnaissance of the site on June 14, 2006 and on May 29, 2007. During both events, the replacement housing units were still under construction.

5.1 HAZARDOUS SUBSTANCES IN CONNECTION WITH IDENTIFIED USES

During the site reconnaissance in June 2006 and May 2007, hazardous substances were not observed at the site

5.2 HAZARDOUS SUBSTANCE CONTAINERS AND UNIDENTIFIED SUBSTANCE CONTAINERS

During the site reconnaissance in June 2006 and May 2007, hazardous substance or unidentified substance containers were not observed at the site.

5.3 STORAGE TANKS

During the site reconnaissance in June 2006 and May 2007, there were no storage tanks observed at the site.

5.4 INDICATIONS OF PCBS

In June 2006, according to the site construction manager, all new electrical equipment cables were to be installed underground and that pad-mounted transformers were to contain PCB-free oils. In May 2007, aboveground electrical cables were not observed at the property.

5.5 INDICATIONS OF ASBESTOS

Due to the recent construction of the housing units on site (year 2007), asbestos-containing materials (ACM) are not expected to have been used in the construction of these units. According to Navy personnel (as communicated to Ohana Military Communities, LLC), the specification for the construction of the housing units specifically prohibited the use of ACM.

5.6 INDICATIONS OF SOLID WASTE DISPOSAL

During the site reconnaissance in June 2006 and May 2007, construction debris was observed at the site due to ongoing construction activities.

5.7 PHYSICAL SETTING ANALYSIS, IF MIGRATING HAZARDOUS SUBSTANCES ARE AN ISSUE

Section 4.1 summarizes potential concerns regarding nearby sites that may have an impact on the site and Section 4.4 summarizes the physical setting.

5.8 WETLANDS AND FLOODPLAINS

During the site reconnaissance in June 2006 and May 2007, no wetlands or floodplains on the site were observed.

5.9 LEAD

The new units were under construction during the site reconnaissance in June 2006 and May 2007 and were not inspected. Based on the recent construction of the housing units at Mokapu Court, LBP is assumed to not be present in housing units at the site. According to Navy personnel (as communicated to Ohana Military Communities, LLC), the specification for the construction of the housing units specifically prohibited the use of LBP.

5.10 ENDANGERED SPECIES AND SENSITIVE ENVIRONMENTS

5.10.1 Endangered Species

Endangered species were not observed during the site reconnaissance in June 2006 and May 2007.

5.10.2 Sensitive Environments

Sensitive environments at the site were not observed during the site reconnaissance in June 2006 and May 2007.

5.11 INTERVIEWS

5.11.1 Military Organizations

In May, July, and August 2007, representatives of Marine Corps Base Hawaii and Naval Facilities Engineering Command, Pacific and Region Hawaii, were contacted. The following lists these individuals and their titles. Information provided by these individuals has been incorporated throughout this report as appropriate.

(b) (6) MCBH Kaneohe Bay Housing Manager

(b) (6) MCBH Kaneohe Bay Housing Inspector

(b) (6)	MCBH Installation Restoration Program Manager
(b) (6)	Environmental Engineer, NAVFAC Pacific, Environmental Compliance Program
(b) (6)	Environmental Engineer, NAVFAC Pacific, Hazardous Waste Program
(b) (6)	Environmental Engineer, NAVFAC Pacific, Air Quality and National Environmental Policy Act
(b) (6)	Certified Industrial Hygienist, NAVFAC Pacific, Asbestos/Lead-Based Paint
(b) (6)	Environmental Engineer, NAVFAC Region Hawaii, Installation Restoration Program

5.11.2 Hawaii Department of Health

The HDOH was contacted in August 2007 regarding ongoing environmental investigations and compliance actions at the family housing areas at MCBH Kaneohe Bay. The inquiry was referred by (b) (6), Remedial Project Manager at the HEER, to (b) (6), the Installation Restoration Program Manager at MCBH. In addition, (b) (6) of the HEER was also contacted regarding the HDOH's database of Activity and Use Limitations (AULs). Information received from (b) (6) on 7 September 2007 indicated that of the military family housing areas at MCBH Kaneohe Bay, only the Waikulu neighborhoods of Rainbow Court and NCO Row are currently required to manage soils in accordance with the Pesticide Soils Management Plan, dated February 2007. The HDOH considers the Pesticide Soils Management Plan as constituting Land Use Control.

5.12 OTHER CONDITIONS OF CONCERN

There are no other conditions of concern for this site.

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6.0 FINDINGS

6.1 FINDINGS SUMMARY

Based on the definition of a REC in the ASTM Standard Practice E 1527-05, there are no RECs identified for this site.

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7.0 OPINION

Based on the findings of our assessment, Parsons provides the following opinions on the observed conditions:

The EBS reports that the application of waste oil as a dust suppressant along the roadways within the vicinity of the site may have occurred, potentially resulting in a pre-existing condition. This was reported to have been a common practice at other military installations. Since no documentation can be found to support that this practice occurred at this site, it is the opinion of the EP that this does not constitute a REC for the site.

None of the transformers discussed in the 2006 Phase 1 ESA is located at the site. Although soil sampling data indicate that soils in the immediate vicinity of these transformers have PCB concentrations above the TSCA action levels, it is the opinion of the EP that PCB contamination from these transformers do not constitute RECs to the site since PCB contamination is localized and does not migrate.

The Environmental Baseline Survey (EBS) reports that according to housing management, pesticides/herbicides have been legally applied to the interior and exterior of the homes at MCBH Kaneohe Bay to control vegetative growth and infestation. Chlordane was also likely applied beneath the floor slabs of the housing units for termite protection. A limited soils survey (BENDCO, August 2005) from underneath the slab of a building in preparation for construction of replacement housing, indicated levels less than the detection limit of 0.000013 parts per million (ppm) of chlordane. Dichloro-diphenyl-trichloroethane (DDT) and dieldrin were detected below 0.0006 parts per billion. The presence of the pesticide residues in the soil is the result of past application of the chemicals on site rather than the result of a spill or other type of release. These levels are below the Hawaii Tier II Environmental Action Levels (EALs). The State of Hawaii requires remediation of pesticide impacted soils above the Tier II EALs. Soils containing chlordane at levels less than 1.66 ppm may be used in areas of unrestricted access, as determined by the USEPA. Based on the low levels of contamination, it is the opinion of the EP that pesticide impacted soil does not constitute a REC to the site and no further investigations are recommended. (Note: The limited soils survey report was made available to Parsons by Ohana Military Communities LLC for this assessment, but was not available from either the DoN or Ohana Military Communities LLC in preparation of the 2006 Phase 1 ESA.).

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8.0 CONCLUSIONS

Parsons has conducted this Phase I Environmental Site Assessment in accordance with the American Society for Testing and Materials Standard Practice E 1527-05, *Standard Practice for Environmental Site Assessments: Phase I Environmental Assessment Process* of the Mokapu Court Family Housing Area located at MCBH Kaneohe Bay. This assessment has revealed no evidence of recognized environmental conditions in connection with the subject property and no further environmental investigations at the site are recommended.

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9.0 DEVIATIONS AND DATA GAPS

9.1 DEVIATIONS

There were no deviations in the performance of this Phase 1 environmental site assessment.

9.2 DATA GAPS

There were no data gaps identified for this site.

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10.0 REFERENCES

Aquifer Identification and Classification for Oahu: Groundwater Protection Strategy for Hawaii, Mink, John F. and Lau, Stephen L., February 1990 (Revised).

Headquarters Engineering and Construction News *World Class Technical Capabilities*, Volume 3, Number 9, U.S. Army Corps of Engineers, June 2001.

Environmental Condition of Property to Support Hawaii Public-Private Venture Housing Phase 4, Marine Corps Base Hawaii Housing Areas: Mololani, Pa Honua 3 and Ulupau, Kaneohe Bay, Hawaii. Naval Pacific Engineering Command, Pacific. July 2007.

Finding of Suitability to Support Hawaii Public-Private Venture Housing Phase 4, Marine Corps Base Hawaii Housing Areas: Mololani, Pa Honua 3 and Ulupau, Kaneohe Bay, Hawaii. Naval Pacific Engineering Command, Pacific. July 2007.

Final Report Environmental Baseline Survey for Public Private Venture Action, Various Marine Corps Base Hawaii Housing Areas: MCBH Kaneohe Bay, MCBH Camp H. M. Smith and MCBH Manana Family Housing Areas, Oahu, Hawaii. August 2006.

Final Finding of Suitability for Public Private Venture Action, Various Marine Corps Base Hawaii Housing Areas: MCBH Kaneohe Bay, MCBH Camp H.M. Smith and MCBH Manana Family Housing Areas, Oahu, Hawaii for Naval Facilities Engineering Command Pacific Division. August 2006.

H-563 Replacement Housing Units Soil Analysis. Bauske Environmental Inc., dba BENDCO, Kapolei, Hawaii. 30 August 2005.

<http://arch.k12.hi.us/PDFs/ssir/2003/Windward/SSIR322.pdf>. Accessed May 20, 2007.

<http://165.248.6.166/data/school.asp?schoolcode=322>. Accessed May 20, 2007.

http://www.visitmilitarybases.com/Hawaii_Marine_Corps_Base_map.html. Accessed May 20, 2007.

<http://www.hawaii.gov/health/environmental/hazard/records.html>. Accessed May 23, 2007.

Marine Corp Base Hawaii Integrated Natural Resources Management Plan and Environmental Assessment (MCBH INRMP/EA), Marine Corps Base Hawaii, Prepared by: Diane C. Drigot Environmental Department, Marine Corps Base Hawaii, November 2001.

Personal communication between (b) (6) of the Hawaii Department of Health and (b) (6) of Parsons. August 6, 2007.

**PHASE I ENVIRONMENTAL SITE ASSESSMENT
MOKAPU COURT FAMILY HOUSING AREA
MARINE CORPS BASE HAWAII, KANEOHE BAY**

Personal communication between (b) (6) of MCBH and (b) (6) of Parsons. August 13, 2007.

Personal communication between (b) (6), Ohana Military Communities LLC / (b) (6), Parsons and (b) (6), MCBH Kaneohe Bay Housing Office, July 13, 2007.

Personal communication between (b) (6), Ohana Military Communities LLC / (b) (6), Parsons and (b) (6), NAVFAC Pacific / (b) (6), NAVFAC Region Hawaii, May 30, 2007.

Personal communication between (b) (6), Hawaii Department of Health and (b) (6), Parsons, August 24, 2007.

Ohana Repair Cost and Inventory Database. Ohana Military Communities, LLC, Hawaii. August 2006.

TIS. Environmental FirstSearch™ Report. May 23, 2007.

TIS. Historical Aerial Photograph Report February 21, 2006.

TIS. Historical Topographic Map Report. March 6, 2006.

Volcanoes in the Sea, The Geology of Hawaii, Second Ed., Macdonald et. al., 1983.

11.0 DECLARATION BY ENVIRONMENTAL PROFESSIONALS

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in Section 312.10 of Title 40, Code of Federal Regulations (CFR), Part 312 dated 1 November 2005.

We have the specific qualifications based on education, training and experience to assess a property of the nature, history and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR 312.

Signature:

Date:

(b) (6)

(b) (6) P.E.

October 1, 2007

(b) (6)

(b) (6) , P.E.

October 1, 2007

(b) (6)

(b) (6) /

October 1, 2007

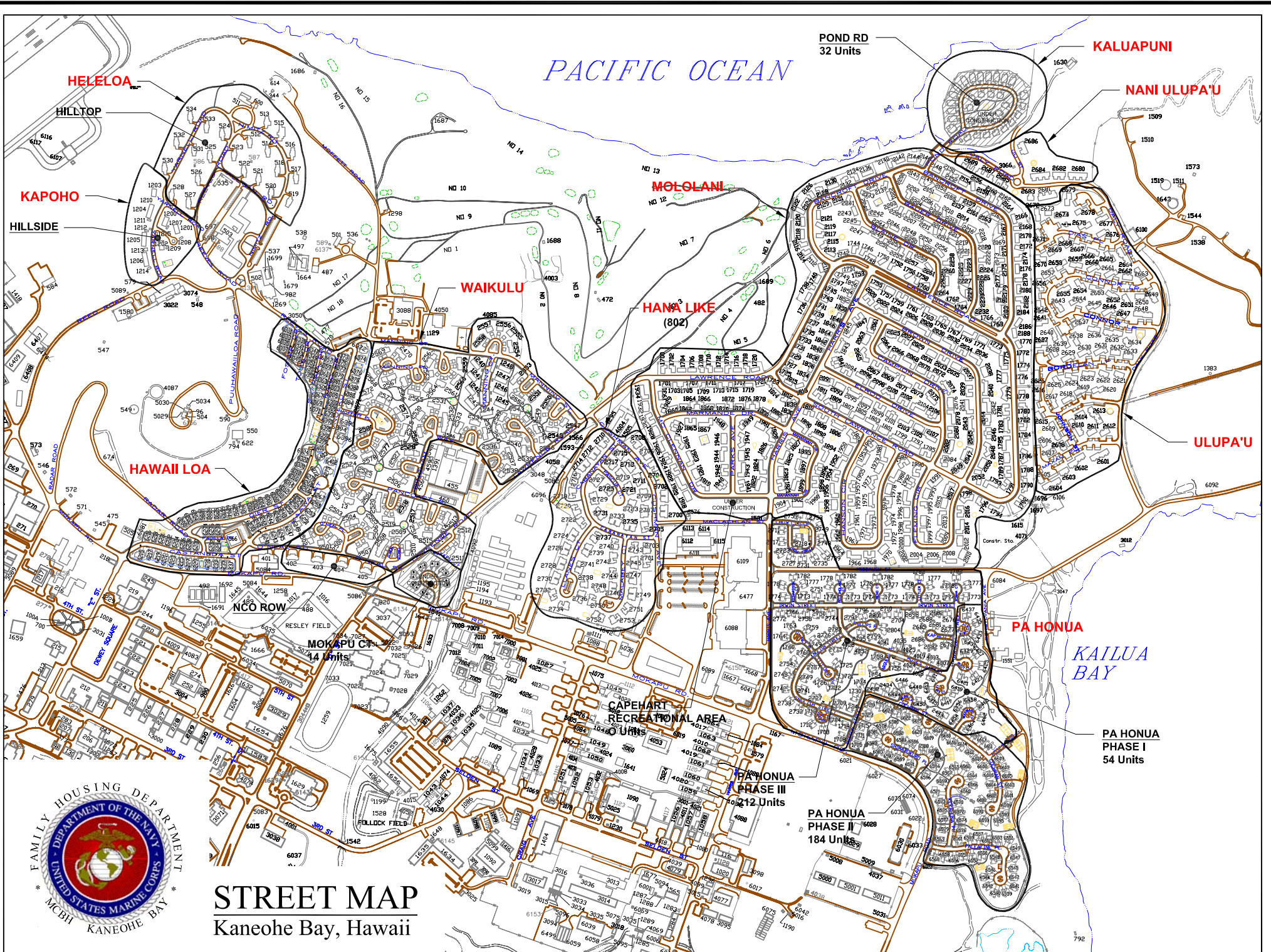
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12.0 QUALIFICATION(S) OF ENVIRONMENTAL PROFESSIONAL(S)

Name	Degree	Years of Experience	Project Responsibilities
(b) (6), P.E.	M.S., Chemical Engineering	29	Site reconnaissance, data review and report preparation
(b) (6), P.E.	M.S., Chemical Engineering	28	Site reconnaissance, data review and report preparation
(b) (6)	B.A., Environmental Studies	6	Site reconnaissance, data review and report preparation
	B.A., Anthropology		

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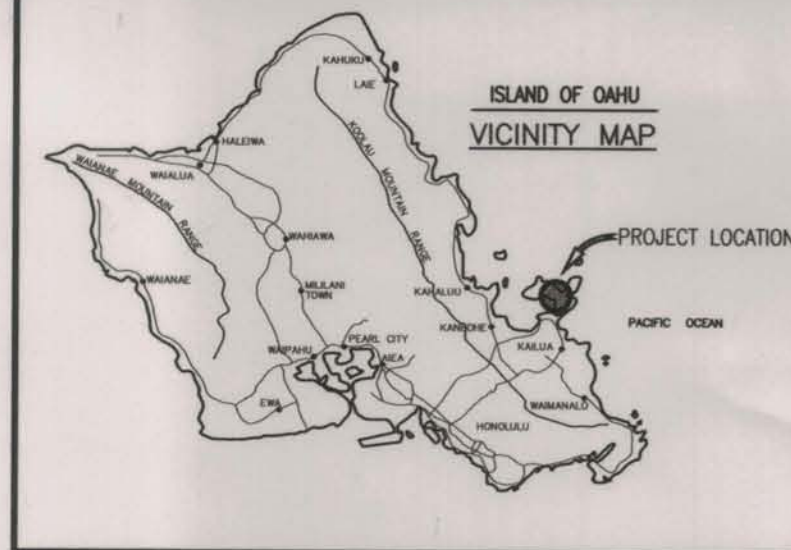
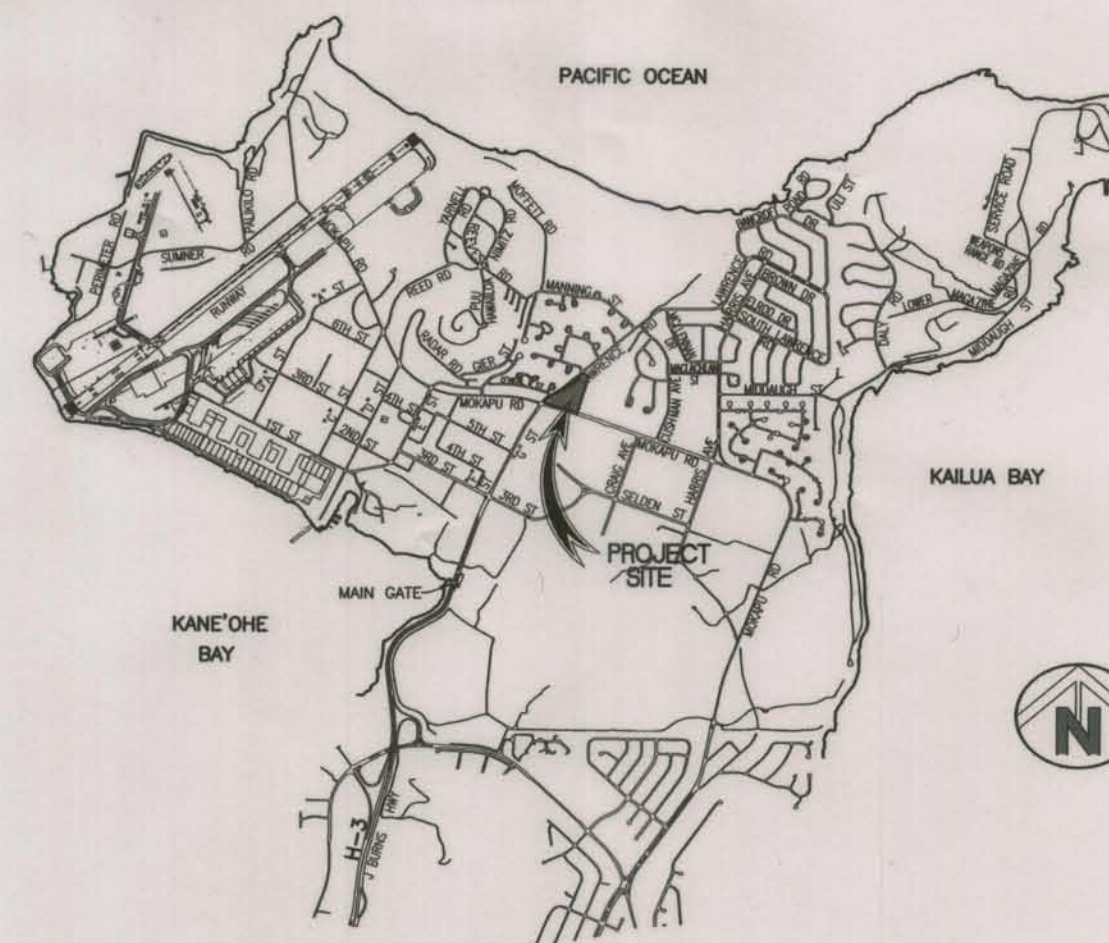
EXHIBIT 1
SITE MAP



STREET MAP

Kaneohe Bay, Hawaii

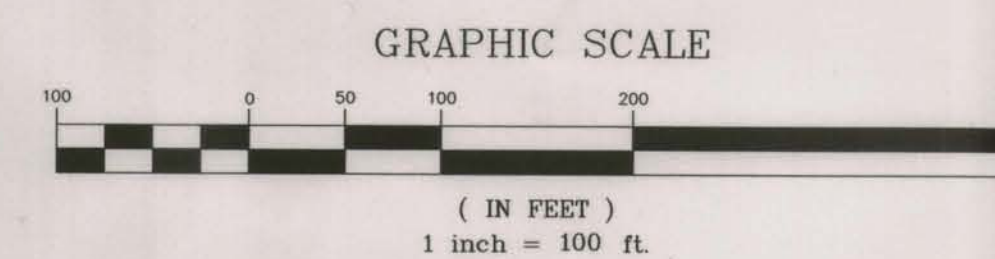
EXHIBIT 2
SITE SURVEY MAP



VICINITY MAP
Not to Scale

MOKAPU COURT		
NO.	AZIMUTH	DISTANCE
1	105° 39'	46.75
2	104° 46'	84.08
3	105° 51'	85.96
4	105° 26'	167.13
5	105° 18'	165.12
6	196° 59'	1.72
7	151° 40' 30" CHORD R=27.00	37.98
8	216° 31' 56" CHORD R=153.17	55.67
9	229° 42'	16.36
10	232° 43'	16.36
11	243° 21' 53" CHORD R=1152.46	80.03
12	242° 42' 31" CHORD R=690.26	63.73
13	237° 53' 07" CHORD R=1537.00	116.80
14	320° 15'	25.61
15	231° 38'	32.02
16	141° 21'	23.97
17	233° 34' 04" CHORD R=1540.00	63.04
18	230° 30'	44.92
19	230° 11'	65.14
20	230° 12'	126.10
21	230° 11'	113.60
22	287° 01'	113.12
23	18° 46'	189.34
24	286° 08'	6.64
25	17° 56'	153.23
26	17° 19' 34"	281.83
27	17° 06'	25.20

MODIFIED ALTA / ACSM LAND TITLE SURVEY
MOKAPU COURT
Marine Corps Base Hawaii - Kaneohe Bay
at Heleloa and Kuwaaohē, Kaneohe, Koolauapoko, Oahu, Hawaii



MOKAPU COURT – Phase 2
Marine Corps Base Hawaii – Kaneohe Bay

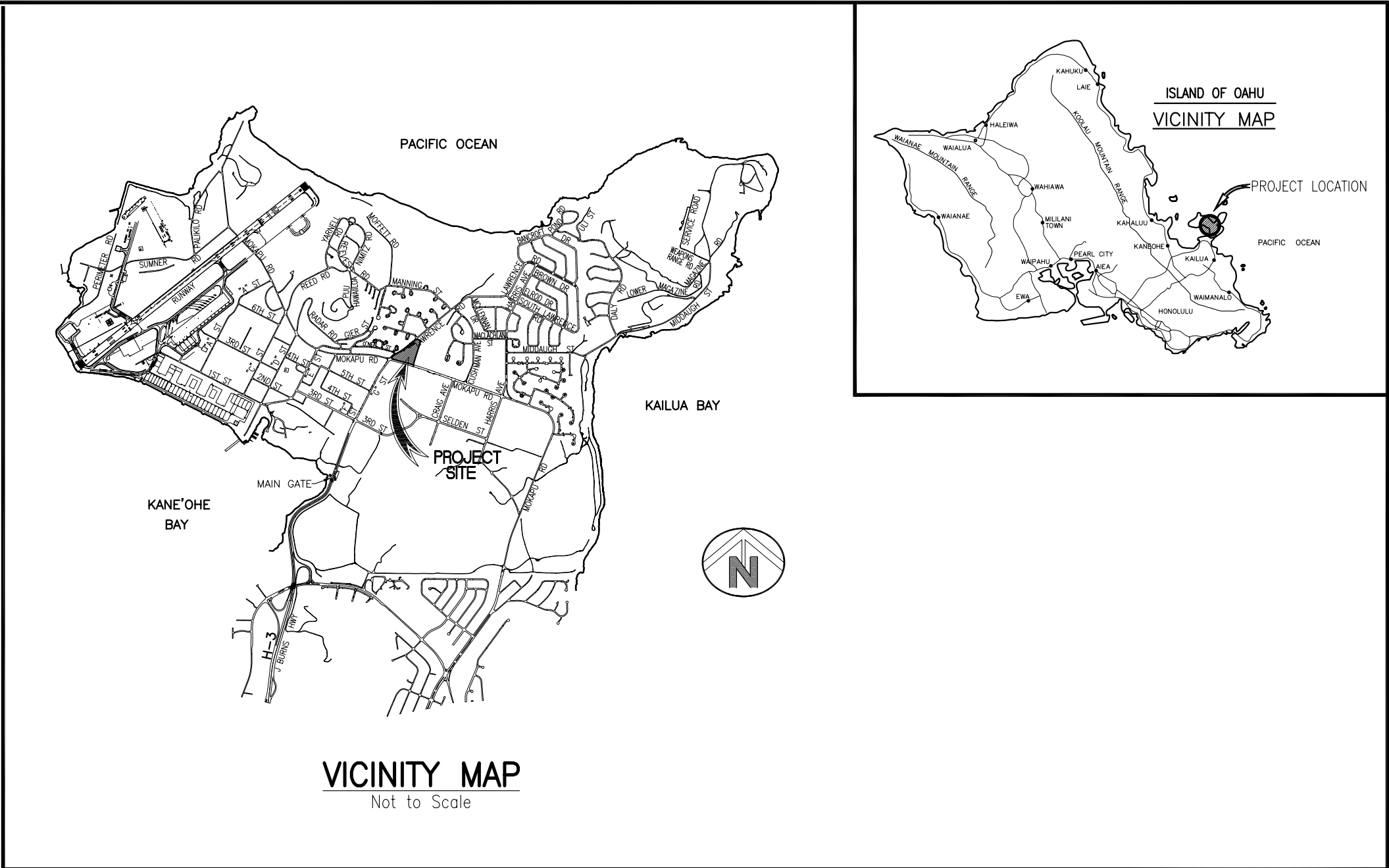
Being portions of Land Commission Award 4452, Apana 13 to H. Kalama and Presidential Executive Order 2900.				
Situate at Heleloa and Kuwaaaohe, Kaneohe, Koolauapoko, Oahu, Hawaii.				
Beginning at the Southeast corner of this parcel of land and on the North side of Mokapu Road the coordinate of said point of beginning referred to Government Survey Triangulation Station "MOKAPU" being 3,771.09 feet South and 6,424.30 feet West and running by azimuths measured clockwise from true South:				
1.	105° 39'	46.75 feet	along the North edge of the curb line of Mokapu Road;	
2.	104° 46'	84.08 feet	along the North edge of asphalt concrete of Mokapu Road;	
3.	105° 51'	85.96 feet	along the North edge of the curb line of Mokapu Road;	
4.	105° 26'	167.13 feet	along the North edge of asphalt concrete of Mokapu Road;	
5.	105° 18'	165.12 feet	along the North edge of asphalt concrete of Mokapu Road;	
6.	196° 59'	1.72 feet	along the East edge of Catch Basin;	
7.	Thence along the East edge of curb line of Lawrence Road on a curve to the right with a radius of 27.00 feet the chord azimuth and distance being:			
	151° 40'	30"	37.98 feet;	
8.	Thence along the East edge of curb line of Lawrence Road on a curve to the right with a radius of 153.17 feet the chord azimuth and distance being:			
	216° 51'	56"	55.67 feet;	
9.	229° 42'	16.36 feet	along the East edge of curb line of Lawrence Road;	
10.	232° 43'	16.36 feet	along the East edge of curb line of Lawrence Road;	
11.	Thence along the East edge of curb line of Lawrence Road on a curve to the right with a radius of 1152.46 feet the chord azimuth and distance being:			
	243° 21'	53"	80.03 feet;	
12.	Thence along the East edge of curb line of Lawrence Road on a curve to the left with a radius of 690.26 feet the chord azimuth and distance being:			
	242° 42'	51"	63.73 feet;	
13.	Thence along the East edge of curb line of Lawrence Road on a curve to the left with a radius of 1537.00 feet the chord azimuth and distance being:			
	237° 53'	07"	116.80 feet;	
14.	320° 15'	25.61 feet	along the chain link fence;	
15.	231° 38'	32.02 feet	along the chain link fence;	
16.	141° 21'	23.97 feet	along the chain link fence;	
17.	Thence along the East edge of curb line of Lawrence Road on a curve to the left with a radius of 1540.00 feet the chord azimuth and distance being:			
	233° 34'	04"	63.04 feet;	
18.	230° 30'	44.92 feet	along the East edge of curb line of Lawrence Road;	
19.	230° 11'	65.14 feet	along the East edge of asphalt concrete of Lawrence Road;	
20.	230° 12'	126.10 feet	along the East edge of curb line of Lawrence Road;	
21.	230° 11'	113.60 feet	along the East edge of curb line of Lawrence Road;	
22.	287° 01'	113.12 feet	along a chain link fence;	
23.	18° 46'	189.34 feet	along a chain link fence;	
24.	286° 08'	6.64 feet	along a chain link fence;	
25.	17° 56'	153.23 feet	along a chain link fence;	
26.	17° 19' 34"	281.83 feet	along a chain link fence;	
27.	17° 06'	25.20 feet	along a chain link fence to the point of beginning and containing an area of 225,353 square feet or 5.173 acres, more or less.	

SURVEY CERTIFICATE

Subject Premises: MOKAPU COURT – Phase 2
Marine Corps Base Hawaii – Kaneohe Bay
Heleloa and Kuwaaaohe, Kaneohe, Koolauapoko, Oahu, Hawaii

The undersigned, as to the property described and depicted in the attached survey entitled "Modified ALTA/ACSM Land Title Survey, Mokapu Court, Marine Corps Base Hawaii – Kaneohe Bay, hereby certifies to Ohana Military Communities, LLC, Hawaii Military Communities, LLC, Merrill Lynch, Pierce, Fenner & Smith Incorporated and its affiliates, Commonwealth Land Title Insurance Company, Island Title Corporation, United States of America, Department of the Navy, MBIA Insurance Corporation, CIG Assurance North America, Inc., Lehman Brothers, Inc., Ballard Spahr Andrews & Ingersoll, LLP, Hunton & Williams, LLP, Chun Rair & Yoshimoto LLP, Holland & Knight LLP, Kutak Rock LLP, Carlsmith Bail LLP, The Bank of New York Trust Company, N.A. and TrilMont Real Estate Advisors, Inc., and their respective successors and assigns, as of the date of this Survey Certificate, that:

- I am a registered surveyor No. 10733 licensed by the State of Hawaii;
- The attached survey entitled "Modified ALTA/ACSM Land Title Survey, Mokapu Court, Marine Corps Base Hawaii – Kaneohe Bay" was prepared by me, or directly under my supervision, after inspection of the premises on the ground at various times from June 9, 2007 through July 17, 2007, and accurately and correctly represents the facts and conditions found at the time of survey. The attached survey consists of a total of 2 sheets. The first sheet of the survey is accompanied by an aerial photograph of each parcel of the subject property;
- The survey accurately and correctly shows:
 - The boundary lines of the subject property and the area of the subject property, and each parcel thereof, as measured in both acres and square feet (and that the lines of actual possession are the same, except as expressly noted);
 - The location of all easements, rights-of-way and other matters evidenced by the title commitment (the "Title Commitment") with respect to the subject property (or any part thereof) in accordance with the applicable provisions of Section 5(n) of the "Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys," jointly established and adopted in 2005 by American Land Title Association ("ALTA") and National Society of Professional Surveyors ("NSPS") (the "ALTA Standards") and the location of all easements, rights-of-way and other matters with respect to the subject property (or any part thereof) of which I have knowledge or have been advised (whether or not of record), and, if applicable, identified by reference to the specific recording information or, if available, Navy control number and, if applicable, cross-referenced to the exception number in the Title Commitment (and including whether the same apply to and can be located and plotted on the survey);
 - As shown on the Aerial Page only, all publicly-dedicated and maintained abutting streets and roadways providing access to the subject property specifically showing the access points thereon and the name thereof, together with map insets showing access over Navy owned roads or other passable accessways to the first point of contact with a publicly dedicated and maintained road or other passable accessway;
 - The scale, north direction, beginning point, and point of reference from which each parcel of the subject property is located;
 - A vicinity map showing the subject property in reference to major street intersections;
 - The measured and computed courses and distances of the exterior property lines of each parcel of the subject property (also showing the point of beginning thereof), which form a mathematically closed figure and coincide with the separate metes and bounds or other legally sufficient legal descriptions of the boundaries of each respective parcel of the subject property provided to the parties listed above;
 - The location of all monuments, stakes or marks on the subject property or upon which the establishment of the corners of the subject property depend, whether found or placed; and
 - The location and boundaries (with measured and computed courses and distances) of those areas of the subject property, if any, that are subject to partial legislative jurisdiction, concurrent legislative jurisdiction or proprietary jurisdiction;
- Except as shown and noted on the survey, there are no (a) encroachments upon the subject property by any buildings, fences or other structures upon adjacent property, streets or alleys, (b) encroachments on adjacent property, streets or alleys by any buildings, fences or other structures on the subject property, (c) party walls, (d) conflicts or protrusions, or (e) visible discrepancies, shortages in area or boundary line conflicts;
- Adequate ingress to and egress from the subject property is provided by way of Mokapu Road and Lawrence Road each of the same being paved and routinely maintained by City & County of Honolulu & the United States of America;
- There are no building setback lines disclosed by the Title Commitment or other documents or instruments provided to the undersigned as affecting the subject property and, as such, no building setback lines have been shown;
- The subject property does (and all of the buildings and other structures located on the subject property do) lie within Flood Zone D (areas in which flood hazards are undetermined, but possible) by the Department of Homeland Security, on Flood Insurance Rate Map No. 15003C02800F, dated September 30, 2004, City and County of Honolulu, State of Hawaii, which is the current Flood Insurance Rate Map published by the Federal Emergency Management Agency for the community in which said premises is situated;
- This survey is made at least in accordance with the ALTA Standards, except:
 - for the provisions of Paragraph 5(c) (only with respect to names and widths and location of pavement for streets and highways abutting the subject property and evidence of private roads, but without limiting the provisions of Section 3(c) of this Survey Certificate), Section 5(d) (only as it relates to contiguity, gores and overlaps interior to exterior boundaries), Section 5(f), 5(g) (but without limiting the provisions of Section 3(c) of this Survey Certificate), 5(i) and 5(j) (only as it relates to driveways and alleys on or crossing the subject property, but without limiting the provisions of Section 3(c) of this Survey Certificate); and
 - that:
- The survey of the subject property is an original survey of lot(s) comprised in whole or in part of Regular System land lot(s). A surveyor's affidavit certifying the metes and bounds description of the Regular System land lot(s) of which the subject property is a part has not been recorded in the Bureau of Conveyances of the State of Hawaii. The survey, therefore, only reflects, and the undersigned only certifies, the metes and bounds description of the subject property as depicted on the survey.



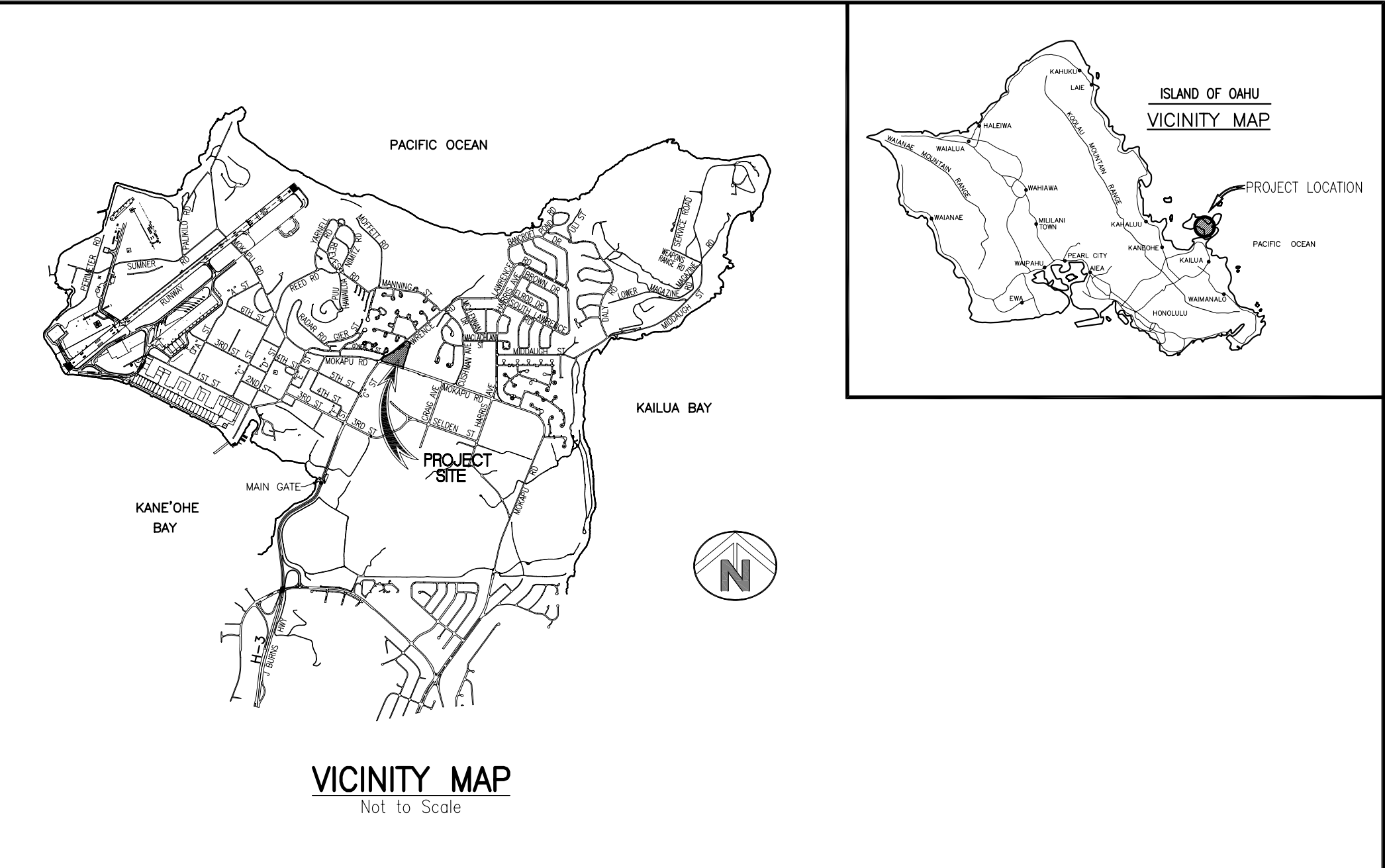
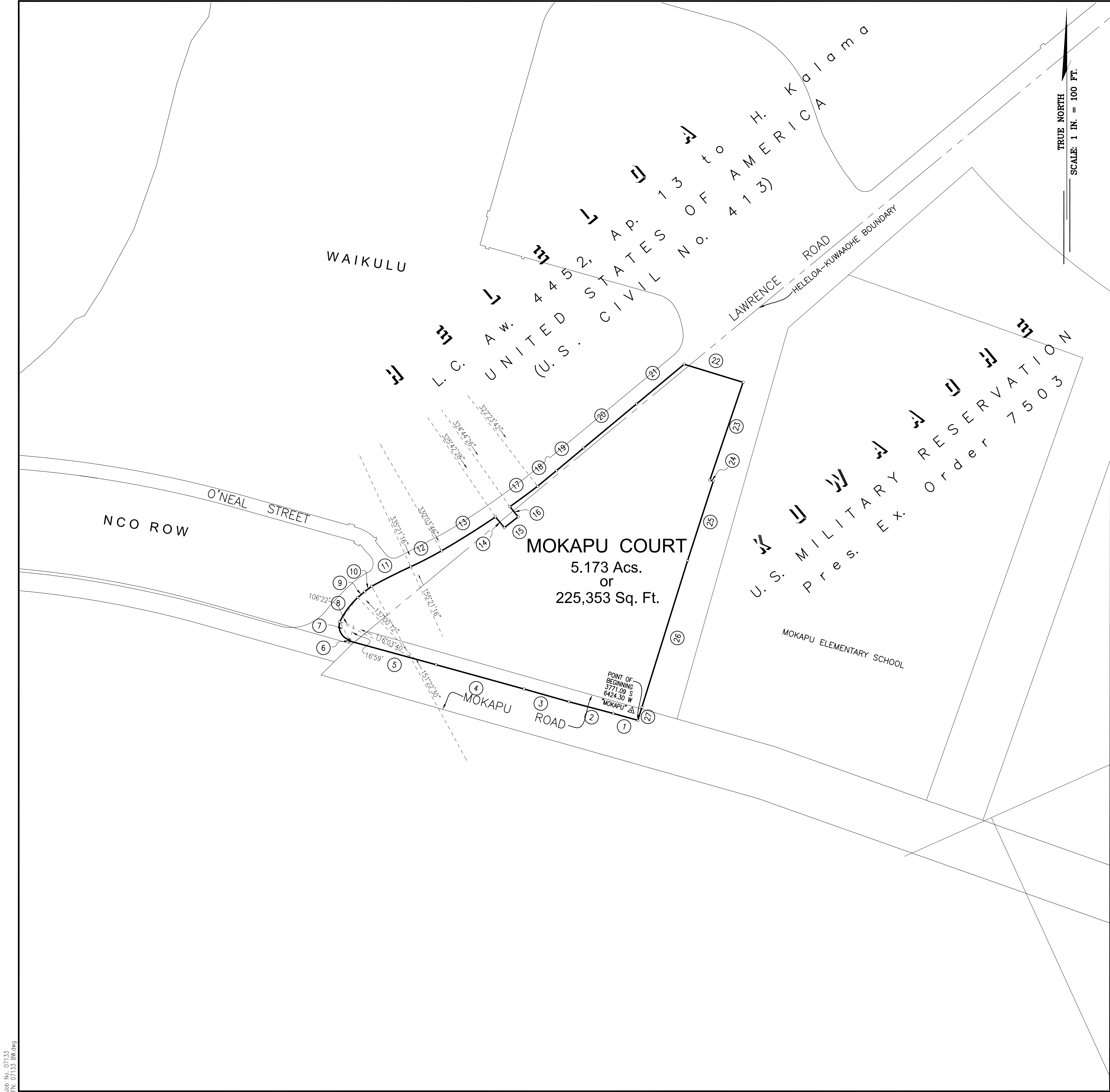
- The Aerial Page of the survey shows all internal streets and roadways, buildings and improvements thereon (identified on the survey by available information with respect to such photograph, including, if available, the date thereof) with the boundary lines and easements within and upon the subject property superimposed thereon. The undersigned does not certify as to the accuracy of the aerial photograph contained on the Aerial Page;
- Pursuant to the accuracy standards as adopted by ALTA and NSPS, and in effect on the date of this Survey Certificate, the undersigned certifies that in my professional opinion, as a land surveyor registered in the State of Hawaii, the Relative Positional Accuracy of this survey does not exceed that which is specified therein; and
- This survey conforms to the current minimum local and state standards and standards of care for surveys of the State of Hawaii.

The parties listed above are entitled to rely on the survey and this certificate as being true, complete and accurate in all respects.

Dated this 27th day of July, A.D., 2007

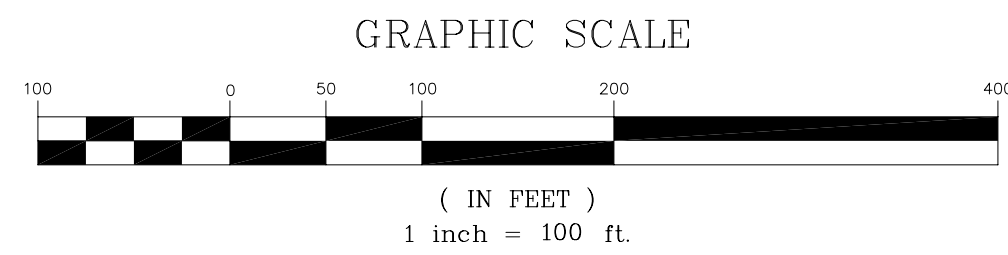
By: _____
Lance T. Stevens
Licensed Professional Land Surveyor
Registration No. 10733, State of Hawaii

MODIFIED ALTA / ACSM LAND TITLE SURVEY
MOKAPU COURT
Marine Corps Base Hawaii - Kaneohe Bay
at Heleloa and Kuwaaaohe, Kaneohe, Koolauapoko, Oahu, Hawaii



MOKAPU COURT		
NO.	AZIMUTH	DISTANCE
1	105° 39'	46.75
2	104° 46'	84.08
3	105° 51'	85.96
4	105° 26'	167.13
5	105° 18'	165.12
6	196° 59'	1.72
7	151° 40' 30" CHORD R=27.00	37.98
8	216° 31' 56" CHORD R=153.17	55.67
9	229° 42'	16.36
10	232° 43'	16.36
11	243° 21' 53" CHORD R=1152.46	80.03
12	242° 42' 31" CHORD R=690.26	63.73
13	237° 53' 07" CHORD R=1537.00	116.80
14	320° 15'	25.61
15	231° 38'	32.02
16	141° 21'	23.97
17	233° 34' 04" R=1540.00	63.04
18	230° 30'	44.92
19	230° 11'	65.14
20	230° 12'	126.10
21	230° 11'	113.60
22	287° 01'	113.12
23	18° 46'	189.34
24	286° 08'	6.64
25	17° 56'	153.23
26	17° 19' 34"	281.83
27	17° 06'	25.20

MODIFIED ALTA / ACSM LAND TITLE SURVEY
MOKAPU COURT
Marine Corps Base Hawaii - Kaneohe Bay
at Heleloa and Kuwaaohē, Kaneohe, Koolauapoko, Oahu, Hawaii

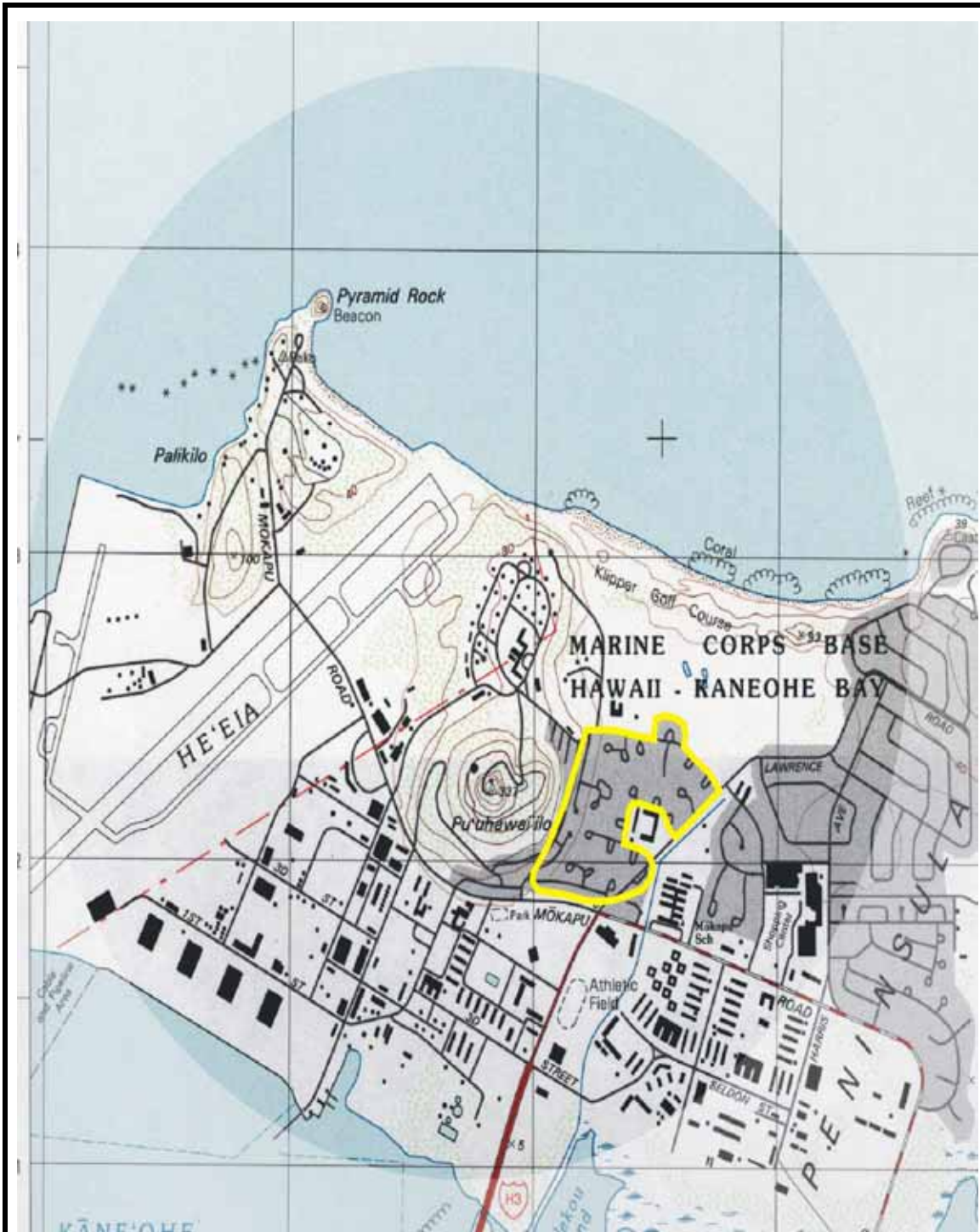


Job No. 07133
PC 07133 B1W.dwg

Tax Map Key: 4-4-08: por. 01
4-4-09: por. 03

CONTROLPOINT SURVEYING, INC.
1150 South King Street, Suite 1200
HONOLULU, HAWAII 96814

EXHIBIT 3
SITE TOPOGRAPHICAL MAP



Site Boundary

Exhibit 3
Site Topographical Map

EXHIBIT 4
ENVIRONMENTAL DATABASE SITES WITHIN ASTM SEARCH
DISTANCE



Environmental FirstSearch

1 Mile Radius

Single Map:



MOKAPU COURT, KAILUA HI 96734



Source: U.S. Census TIGER Files

Target Site (Latitude: 21.447337 Longitude: -157.753894)

Identified Site, Multiple Sites, Receptor

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Railroads

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius



Appendix A

ENVIRONMENTAL DATABASE REPORT

TRACK ► INFO SERVICES, LLC

Environmental FirstSearch™ Report

Target Property: mokapu ct

MOKAPU COURT

KAILUA HI 96734

Job Number: 052307

PREPARED FOR:

Parsons

100 West Walnut Street

Pasadena, CA 91124

05-23-07



Tel: (866) 664-9981

Fax: (818) 249-4227

Environmental FirstSearch Search Summary Report

**Target Site: MOKAPU COURT
KAILUA HI 96734**

FirstSearch Summary

Database	Sel	Updated	Radius	Site	1/8	1/4	1/2	1/2>	ZIP	TOTALS
NPL	Y	03-08-07	1.00	0	0	0	0	0	0	0
NPL Delisted	Y	03-08-07	0.50	0	0	0	0	-	0	0
CERCLIS	Y	03-08-07	0.50	0	0	0	0	-	0	0
NFRAP	Y	03-08-07	0.50	0	0	0	0	-	0	0
RCRA COR ACT	Y	06-06-06	1.00	0	0	0	0	0	0	0
RCRA TSD	Y	06-06-06	0.50	0	0	0	0	-	0	0
RCRA GEN	Y	06-06-06	0.25	0	0	0	-	-	0	0
RCRA NLR	Y	06-06-06	0.12	0	0	-	-	-	0	0
Federal IC / EC	Y	05-02-07	0.25	0	0	0	-	-	0	0
ERNS	Y	12-31-06	0.12	0	0	-	-	-	0	0
Tribal Lands	Y	12-01-05	1.00	0	0	0	0	0	0	0
State/Tribal Sites	Y	07-24-06	1.00	0	0	0	0	0	0	0
State/Tribal SWL	Y	NA	0.50	0	0	0	0	-	0	0
State/Tribal LUST	Y	07-28-06	0.50	0	0	0	0	-	0	0
State/Tribal UST/AST	Y	08-04-06	0.25	0	0	0	-	-	0	0
State/Tribal EC	Y	NA	0.25	0	0	0	-	-	0	0
State/Tribal IC	Y	07-24-06	0.25	0	0	0	-	-	0	0
State/Tribal VCP	Y	07-24-06	0.50	0	0	0	0	-	0	0
State/Tribal Brownfields	Y	07-24-06	0.50	0	0	0	0	-	0	0
- TOTALS -				0	0	0	0	0	0	0

Notice of Disclaimer

Due to the limitations, constraints, inaccuracies and incompleteness of government information and computer mapping data currently available to TRACK Info Services, certain conventions have been utilized in preparing the locations of all federal, state and local agency sites residing in TRACK Info Services's databases. All EPA NPL and state landfill sites are depicted by a rectangle approximating their location and size. The boundaries of the rectangles represent the eastern and western most longitudes; the northern and southern most latitudes. As such, the mapped areas may exceed the actual areas and do not represent the actual boundaries of these properties. All other sites are depicted by a point representing their approximate address location and make no attempt to represent the actual areas of the associated property. Actual boundaries and locations of individual properties can be found in the files residing at the agency responsible for such information.

Waiver of Liability

Although TRACK Info Services uses its best efforts to research the actual location of each site, TRACK Info Services does not and can not warrant the accuracy of these sites with regard to exact location and size. All authorized users of TRACK Info Services's services proceeding are signifying an understanding of TRACK Info Services's searching and mapping conventions, and agree to waive any and all liability claims associated with search and map results showing incomplete and or inaccurate site locations.



Environmental FirstSearch

1 Mile Radius

Single Map:



MOKAPU COURT, KAILUA HI 96734



Source: U.S. Census TIGER Files

Target Site (Latitude: 21.447337 Longitude: -157.753894)

Identified Site, Multiple Sites, Receptor

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Railroads

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius





Environmental FirstSearch

1 Mile Radius
ASTM-05: NPL, RCRA COR, STATE



MOKAPU COURT, KAILUA HI 96734



Source: U.S. Census TIGER Files

Target Site (Latitude: 21.447337 Longitude: -157.753894)

Identified Site, Multiple Sites, Receptor

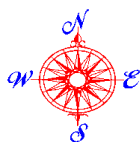
NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Railroads

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius





Environmental FirstSearch

.5 Mile Radius
ASTM-05: Multiple Databases



MOKAPU COURT, KAILUA HI 96734



Source: U.S. Census TIGER Files

Target Site (Latitude: 21.447337 Longitude: -157.753894)

Identified Site, Multiple Sites, Receptor

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Railroads

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius



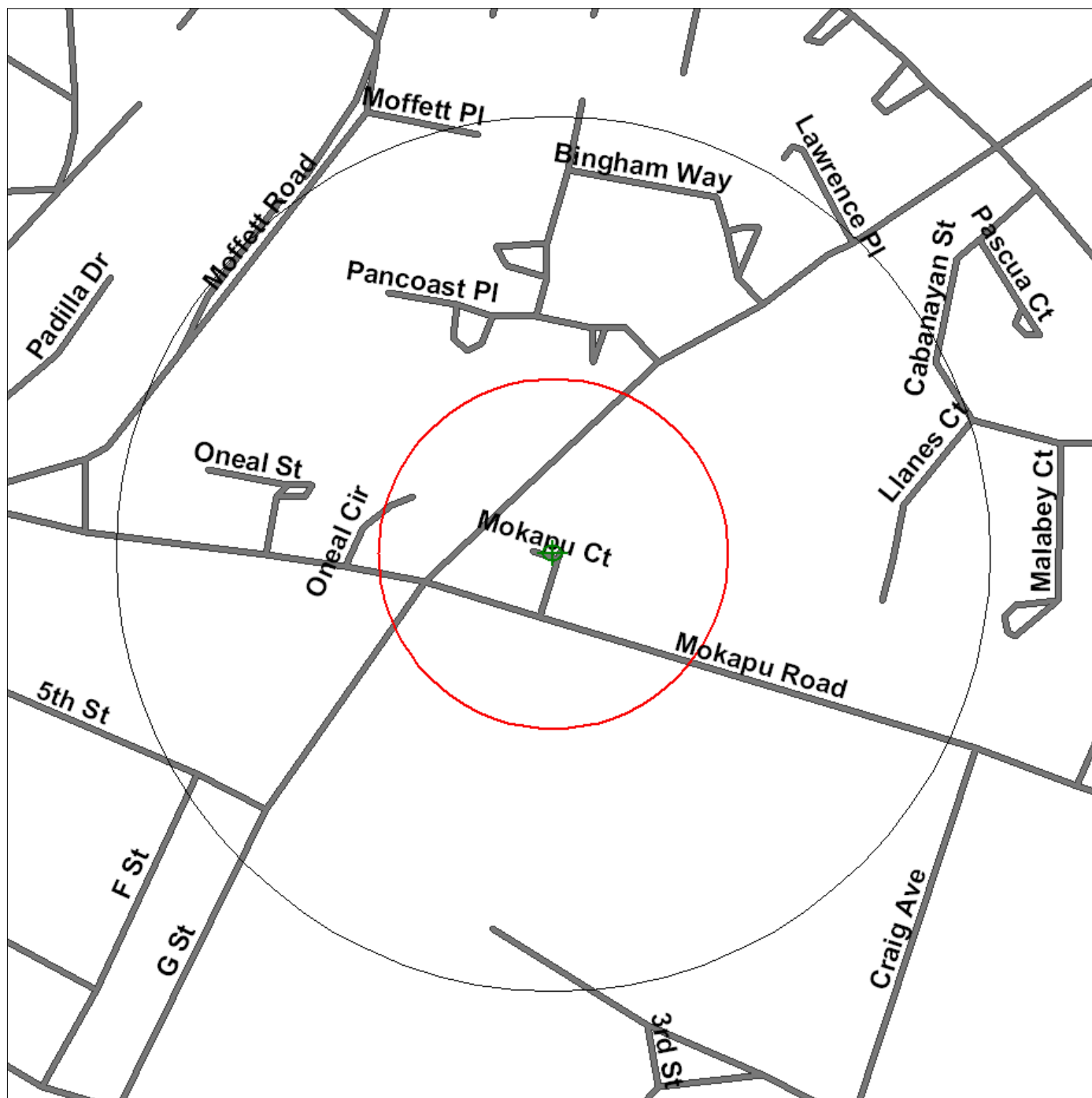


Environmental FirstSearch

.25 Mile Radius
ASTM-05: RC-RAGEN, UST



MOKAPU COURT, KAILUA HI 96734



Source: U.S. Census TIGER Files

Target Site (Latitude: 21.447337 Longitude: -157.753894)

Identified Site, Multiple Sites, Receptor

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Railroads

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius



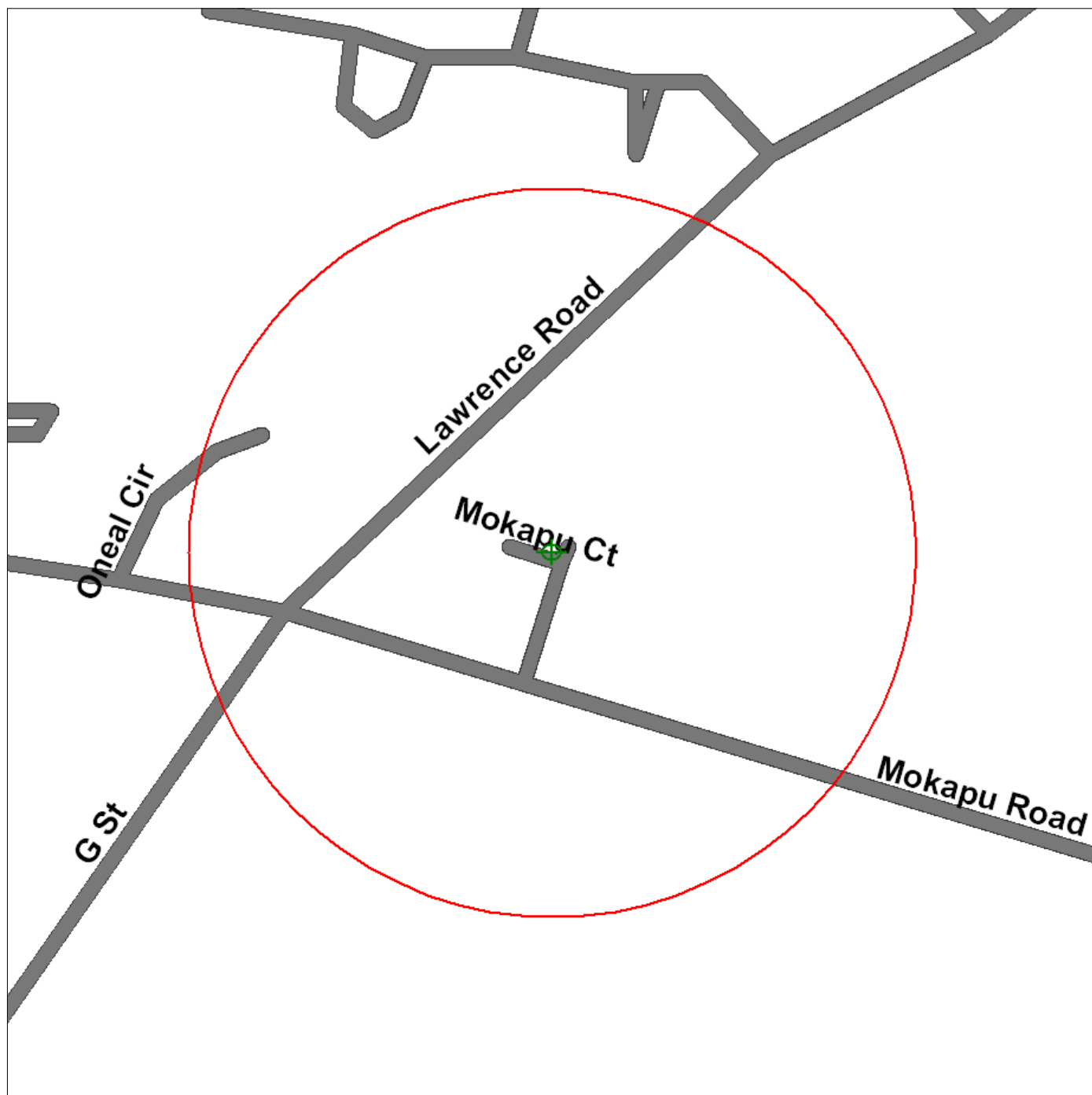


Environmental FirstSearch

.12 Mile Radius
ASTM-05: ERNS, RCRANLR



MOKAPU COURT, KAILUA HI 96734



Source: U.S. Census TIGER Files

Target Site (Latitude: 21.447337 Longitude: -157.753894)

Identified Site, Multiple Sites, Receptor

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Railroads

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius



***Environmental FirstSearch
Site Information Report***

Request Date: 05-23-07
Requestor Name: (b) (6)
Standard: ASTM-05

Search Type: COORD
Job Number: 052307
Filtered Report

Target Site: MOKAPU COURT
KAILUA HI 96734

Demographics

Sites: 0	Non-Geocoded: 0	Population: NA
Radon: -1.9 - 1.6 PCI/L		

Site Location

	<u>Degrees (Decimal)</u>	<u>Degrees (Min/Sec)</u>		<u>UTMs</u>
Longitude:	-157.753894	-157:45:14	Easting:	629126.077
Latitude:	21.447337	21:26:50	Northing:	2372030.904
			Zone:	4

Comment

Comment:

Additional Requests/Services

Adjacent ZIP Codes: 1 Mile(s)

Services:

ZIP Code	City Name	ST	Dist/Dir	Sel
96863	C B H KANEOHE BAY	HI	0.39 SW	Y

	Requested?	Date
Sanborns	No	
Aerial Photographs	No	
Historical Topos	No	
City Directories	No	
Title Search/Env Liens	No	
Municipal Reports	No	
Online Topos	No	

***Environmental FirstSearch
Sites Summary Report***

Target Property: MOKAPU COURT
KAILUA HI 96734

JOB: 052307

TOTAL: 0 **GEOCODED:** 0 **NON GEOCODED:** 0 **SELECTED:** 0

Page No.	ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
-----------------	-----------	----------------	----------------------------	----------------	-----------------	---------------

***Environmental FirstSearch
Site Detail Report***

Target Property: MOKAPU COURT
KAILUA HI 96734

JOB: 052307

No sites were found!

***Environmental FirstSearch
Site Detail Report***

Target Property: MOKAPU COURT
KAILUA HI 96734

JOB: 052307

No sites were found!

Environmental FirstSearch Descriptions

NPL: EPA NATIONAL PRIORITY LIST - The National Priorities List is a list of the worst hazardous waste sites that have been identified by Superfund. Sites are only put on the list after they have been scored using the Hazard Ranking System (HRS), and have been subjected to public comment. Any site on the NPL is eligible for cleanup using Superfund Trust money.

A Superfund site is any land in the United States that has been contaminated by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment.

FINAL - Currently on the Final NPL

PROPOSED - Proposed for NPL

NPL DELISTED: EPA NATIONAL PRIORITY LIST Subset - Database of delisted NPL sites. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

DELISTED - Deleted from the Final NPL

CERCLIS: EPA COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM (CERCLIS)- CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL.

PART OF NPL- Site is part of NPL site

DELETED - Deleted from the Final NPL

FINAL - Currently on the Final NPL

NOT PROPOSED - Not on the NPL

NOT VALID - Not Valid Site or Incident

PROPOSED - Proposed for NPL

REMOVED - Removed from Proposed NPL

SCAN PLAN - Pre-proposal Site

WITHDRAWN - Withdrawn

NFRAP: EPA COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM ARCHIVED SITES - database of Archive designated CERCLA sites that, to the best of EPA's knowledge, assessment has been completed and has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

NFRAP – No Further Remedial Action Plan

P - Site is part of NPL site

D - Deleted from the Final NPL

F - Currently on the Final NPL

N - Not on the NPL

O - Not Valid Site or Incident

P - Proposed for NPL

R - Removed from Proposed NPL

S - Pre-proposal Site

W – Withdrawn

RCRA COR ACT: EPA RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984.

RCRAInfo facilities that have reported violations and subject to corrective actions.

RCRA TSD: EPA RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM

TREATMENT, STORAGE, and DISPOSAL FACILITIES. - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984.

Facilities that treat, store, dispose, or incinerate hazardous waste.

RCRA GEN: EPA RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM GENERATORS - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984. Facilities that generate or transport hazardous waste or meet other RCRA requirements.

LGN - Large Quantity Generators

SGN - Small Quantity Generators

VGN – Conditionally Exempt Generator.

Included are RAATS (RCRA Administrative Action Tracking System) and CMEL (Compliance Monitoring & Enforcement List) facilities.

RCRA NLR: EPA RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984.

Facilities not currently classified by the EPA but are still included in the RCRAInfo database. Reasons for non classification:

Failure to report in a timely matter.

No longer in business.

No longer in business at the listed address.

No longer generating hazardous waste materials in quantities which require reporting.

Federal IC / EC: EPA BROWNFIELD MANAGEMENT SYSTEM (BMS) - database designed to assist EPA in collecting, tracking, and updating information, as well as reporting on the major activities and accomplishments of the various Brownfield grant Programs.

FEDERAL ENGINEERING AND INSTITUTIONAL CONTROLS- Superfund sites that have either an engineering or an institutional control. The data includes the control and the media contaminated.

ERNS: EPA/NRC EMERGENCY RESPONSE NOTIFICATION SYSTEM (ERNS) - Database of incidents reported to the National Response Center. These incidents include chemical spills, accidents involving chemicals (such as fires or explosions), oil spills, transportation accidents that involve oil or chemicals, releases of radioactive materials, sightings of oil sheens on bodies of water, terrorist incidents involving chemicals, incidents where illegally dumped chemicals have been found, and drills intended to prepare responders to handle these kinds of incidents. Data since January 2001 has been received from the National Response System database as the EPA no longer maintains this data.

Tribal Lands: DOI/BIA INDIAN LANDS OF THE UNITED STATES - Database of areas with boundaries established by treaty, statute, and (or) executive or court order, recognized by the Federal Government as territory in which American Indian tribes have primary governmental authority. The Indian Lands of the United States map layer shows areas of 640 acres or more, administered by the Bureau of Indian Affairs. Included are Federally-administered lands within a reservation which may or may not be considered part of the reservation.

State/Tribal LUST: HI DOH LEAKING UNDERGROUND STORAGE TANKS-The Hawaii Department of Health's inventory of sites with leaking underground storage tanks.

State/Tribal Brownfields: HI DOH STATE BROWNFIELDS LISTING-The Hawaii Department of Health's Office of Hazard Evaluation and Emergency Response (HEER) inventory of brownfields sites.

State/Tribal IC: *HI DOH* INSTITUTIONAL CONTROLS LISTING-The Hawaii Department of Health's Office of Hazard Evaluation and Emergency Response (HEER) inventory of sites with institutional controls.

State/Tribal VCP: *HI DOH* VOLUNTARY RESPONSE PROGRAM LISTING-The Hawaii Department of Health's Office of Hazard Evaluation and Emergency Response (HEER) inventory of sites participating in the state's Voluntary Response Program.

State/Tribal Sites: *HI DOH* STATE RESPONSE LISTING-The Hawaii Department of Health's Office of Hazard Evaluation and Emergency Response (HEER) inventory of facilities, sites, or areas in which HEER has an interest, has investigated, or may investigate under HRS 128D (includes CERCLIS sites).

State/Tribal UST/AST: *HI DOH* UNDERGROUND STORAGE TANKS- The Hawaii Department of Health's inventory of underground storage tanks.

RADON: *NTIS* NATIONAL RADON DATABASE - EPA radon data from 1990-1991 national radon project collected for a variety of zip codes across the United States.

Environmental FirstSearch Database Sources

NPL: EPA Environmental Protection Agency

Updated quarterly

NPL DELISTED: EPA Environmental Protection Agency

Updated quarterly

CERCLIS: EPA Environmental Protection Agency

Updated quarterly

NFRAP: EPA Environmental Protection Agency.

Updated quarterly

RCRA COR ACT: EPA Environmental Protection Agency.

Updated quarterly

RCRA TSD: EPA Environmental Protection Agency.

Updated quarterly

RCRA GEN: EPA Environmental Protection Agency.

Updated quarterly

RCRA NLR: EPA Environmental Protection Agency

Updated quarterly

Federal IC / EC: EPA Environmental Protection Agency

Updated quarterly

ERNS: EPA/NRC Environmental Protection Agency

Updated semi-annually

Tribal Lands: DOI/BIA United States Department of the Interior

Updated annually

State/Tribal LUST: HI DOH The Hawaii Department of Health, Solid and Hazardous Waste Branch

Updated biannually

State/Tribal Brownfields: *HI DOH* Office of Hazard Evaluation and Emergency Response, Hawaii State Department of Health

Updated biannually

State/Tribal IC: *HI DOH* Office of Hazard Evaluation and Emergency Response, Hawaii State Department of Health

Updated biannually

State/Tribal VCP: *HI DOH* Office of Hazard Evaluation and Emergency Response, Hawaii State Department of Health

Updated biannually

State/Tribal Sites: *HI DOH* Office of Hazard Evaluation and Emergency Response, Hawaii State Department of Health

Updated biannually

State/Tribal UST/AST: *HI DOH* The Hawaii Department of Health, Solid and Hazardous Waste Branch

Updated biannually

RADON: *NTIS* Environmental Protection Agency, National Technical Information Services

Updated periodically

Environmental FirstSearch
Street Name Report for Streets within .25 Mile(s) of Target Property

Target Property: MOKAPU COURT
KAILUA HI 96734

JOB: 052307

Street Name	Dist/Dir	Street Name	Dist/Dir
Mokapu Ct	0.01 SE		
S Lawrence Rd	0.04 NW		
SOUTH Lawrence Rd	0.04 NW		
Mokapu Rd	0.04 SW		
G St	0.07 SW		
Oneal Cir	0.08 NW		
Pancoast Pl	0.13 NE		
Oneal St	0.15 NW		
Oneal Pl	0.15 NW		
Bingham Way	0.19 NE		
Llanes Ct	0.20 SE		
Selden St	0.22 SW		
F St	0.22 SW		
Moffett Rd	0.24 NW		
Moffett Pl	0.24 NW		
Lawrence Pl	0.25 NE		
Cabanayan St	0.25 NE		

Appendix B

HISTORICAL AERIAL PHOTOGRAPHS



Source: *Track Info Services*



NORTH

NO SCALE

1950 Historical Aerial Photograph
Mokapu Court



Source: Track Info Services



NORTH

NO SCALE

1953 Historical Aerial Photograph
Mokapu Court



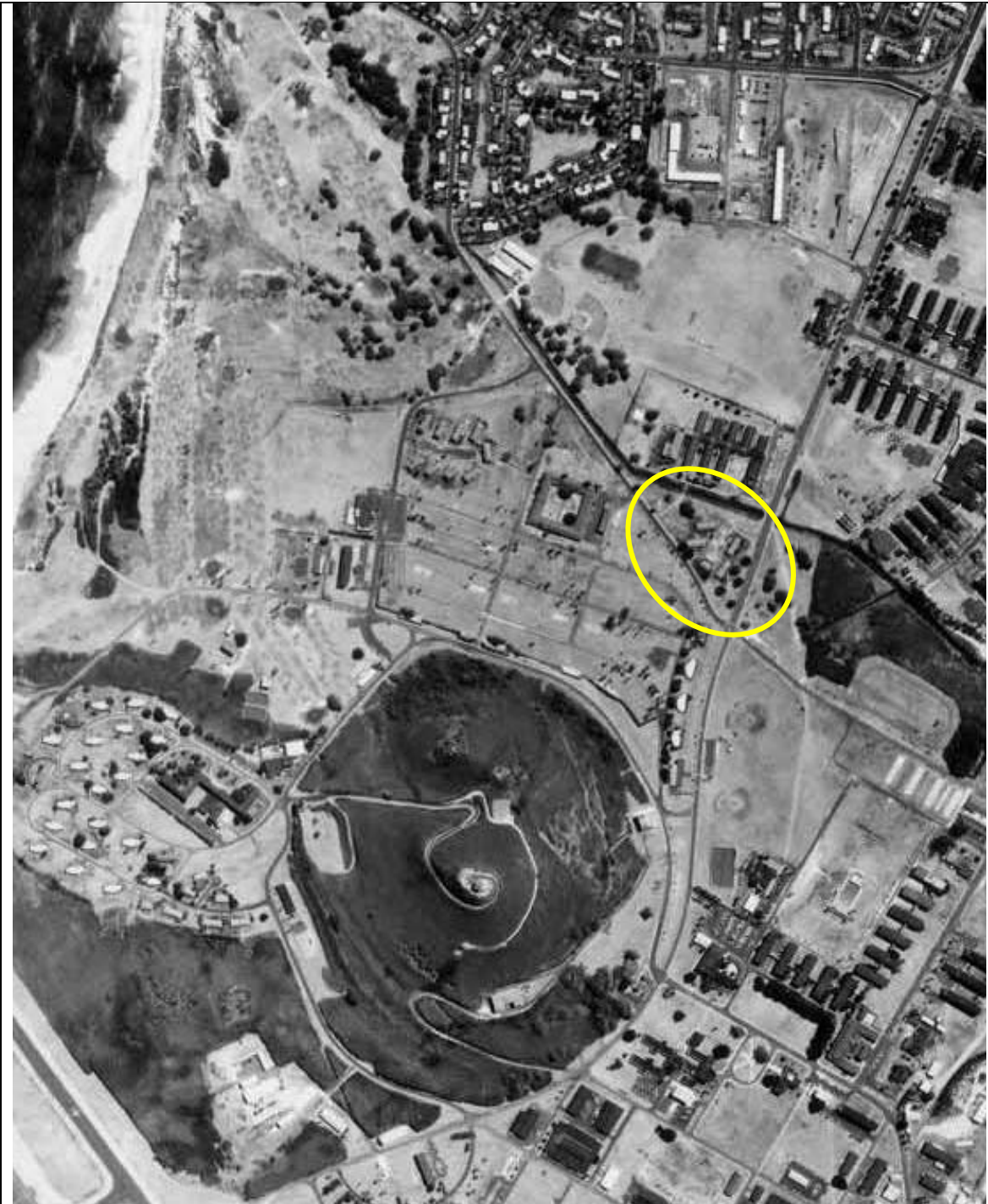
Source: *Track Info Services*



NORTH

NO SCALE

1955 Historical Aerial Photograph
Mokapu Court



Source: Track Info Services



NORTH

NO SCALE

1969 Historical Aerial Photograph
Mokapu Court



Source: *Track Info Services*



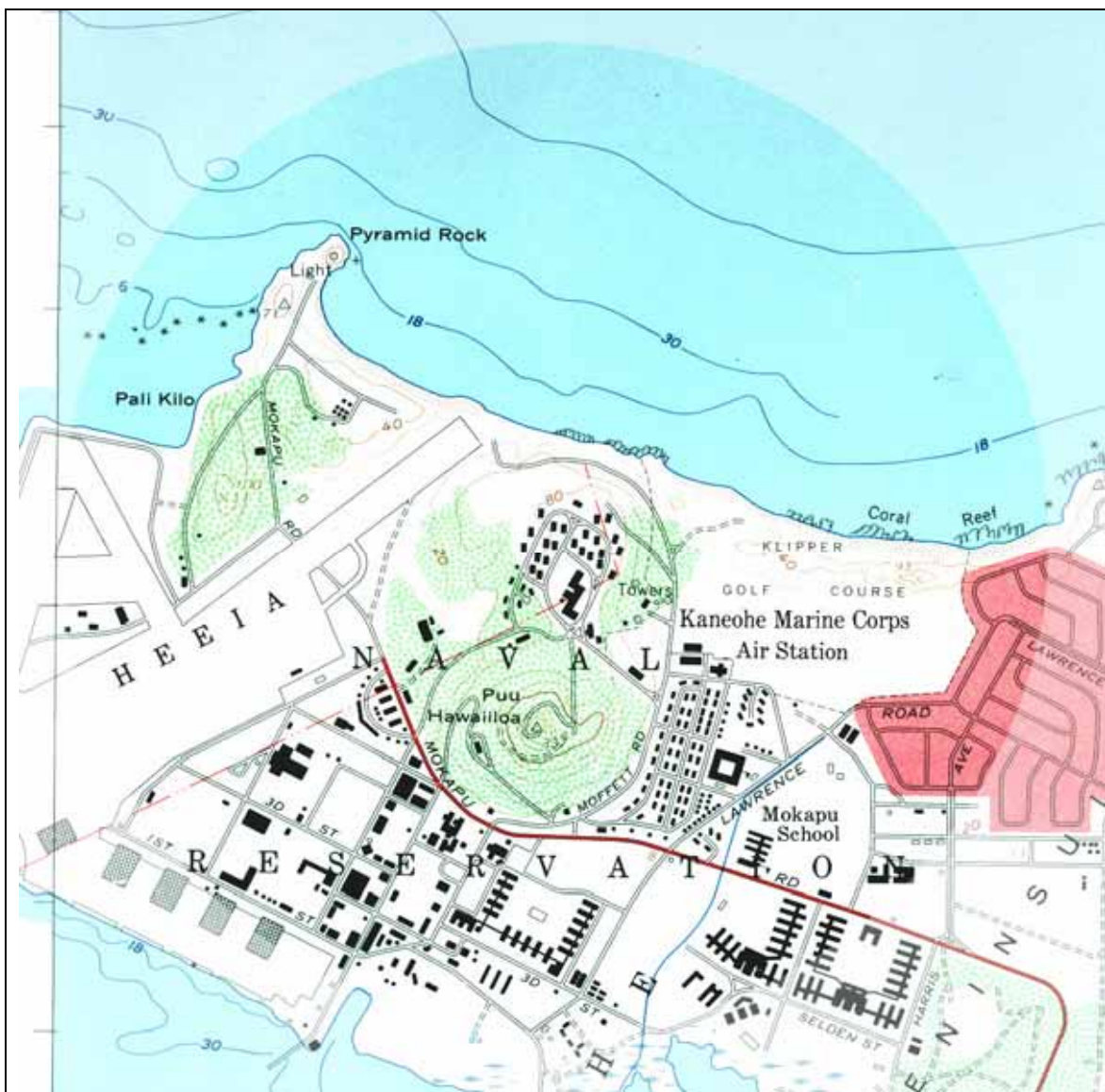
NORTH

NO SCALE

1991 Historical Aerial Photograph
Mokapu Court

Appendix C

HISTORICAL TOPOGRAPHICAL MAPS



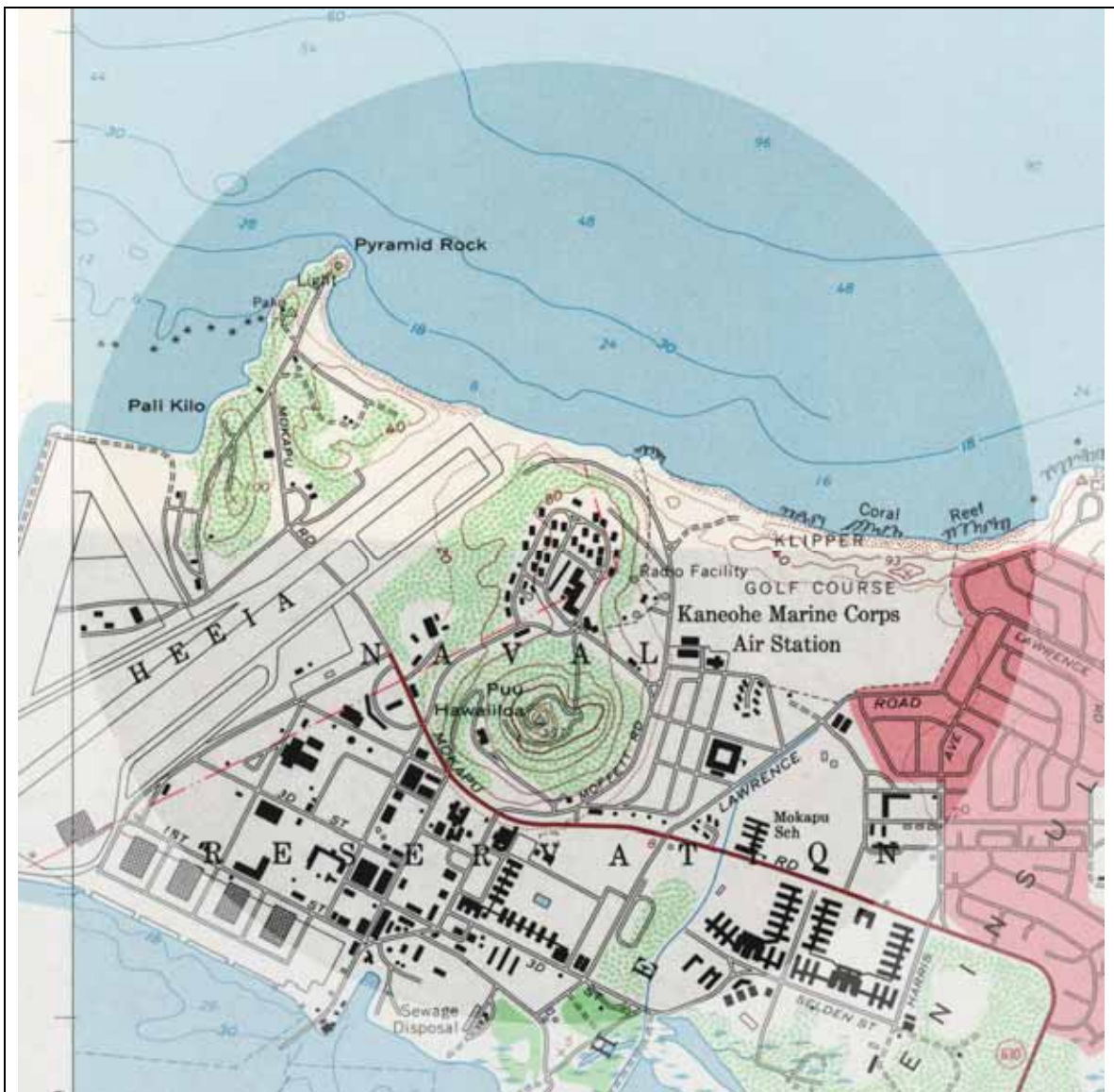
Source: USGS Mokapu, Hawaii Quadrangle, 7.5 Minute Series, 1959 (modified)



NORTH

1 inch = 1667 feet
SCALE

1959 Historical Topographic Map
Mokapu Court

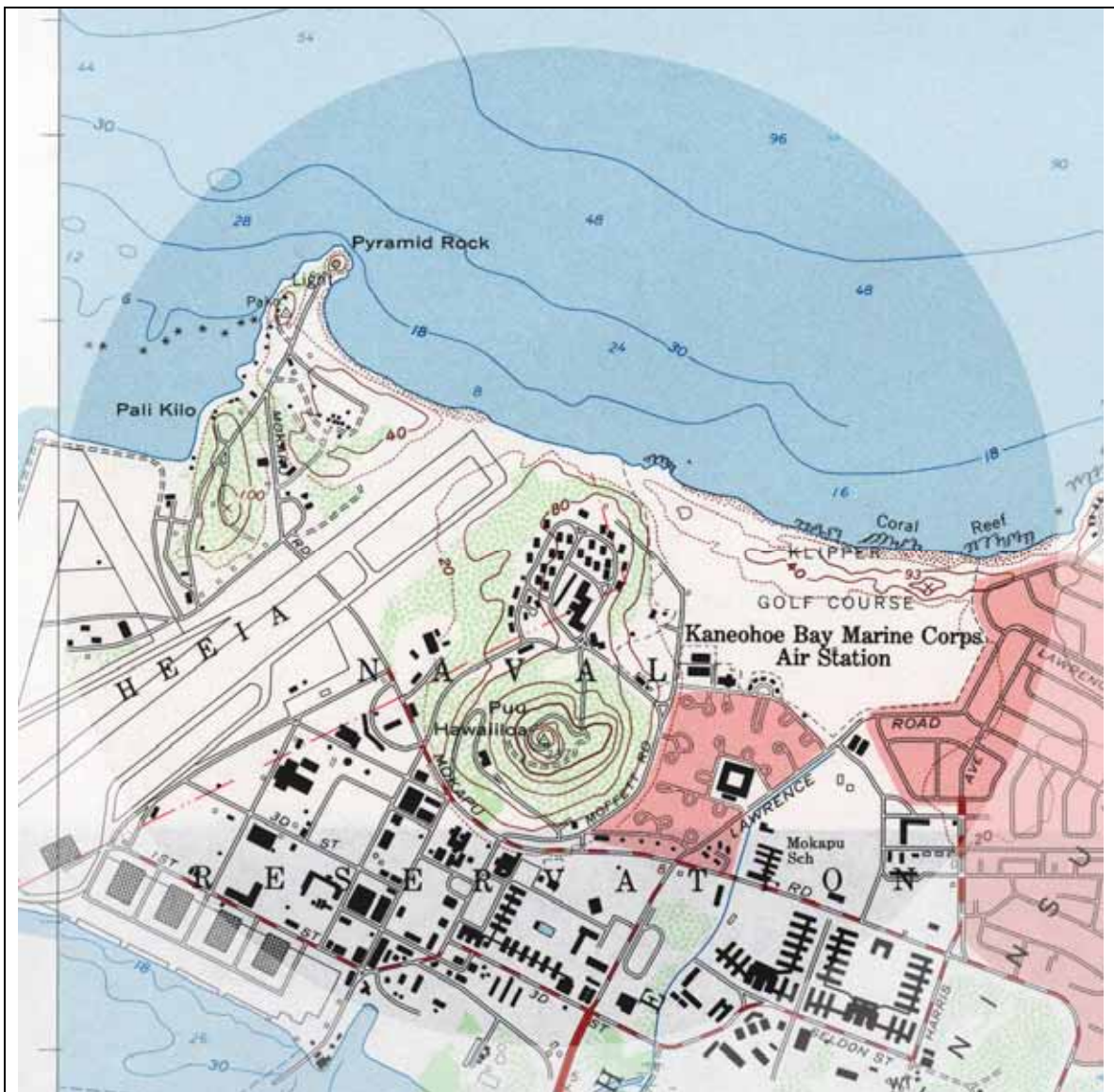


Source: USGS Mokapu, Hawaii Quadrangle, 7.5 Minute Series, 1968 (modified)



1 inch = 1670 feet
SCALE

1968 Historical Topographic Map
Mokapu Court



Source: USGS Mokapu, Hawaii Quadrangle, 7.5 Minute Series, 1983 (modified)



NORTH



1 inch = 1667 feet
SCALE

1983 Historical Topographic Map
Mokapu Court



Source: USGS Mokapu, Hawaii Quadrangle, 7.5 Minute Series, 1998 (modified)



1 inch = 1667 feet
SCALE

1998 Historical Topographic Map
Mokapu Court